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#### THE AMERICAN

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AND

### DISEASES OF WOMEN AND CHILDREN.

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#### ORIGINAL COMMUNICATIONS.

ON THE PRINCIPLES OF THE TREATMENT OF UTERINE DISPLACEMENTS.

 $\mathbf{B}\mathbf{Y}$ 

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THERE is hardly any chapter in gynecology in which such diametrically opposed opinions are professed as in the one on displacements of the womb. This seems the more remarkable since the result of recent excellent researches (for instance, by Schultze) on the anatomy, etiology, and symptomatology of displacements has been generally accepted, and thus a firm basis has been established on which to erect sound therapeutic principles.

Anatomy.—We all agree that normally the uterus lies in a somewhat anteverted and slightly anteflexed position, and that it admits of rather free movements, especially in a forward and backward direction, following every respiration, the filling or emptying of the bladder and rectum, and the action of the abdominal muscles in straining. In general, displace-

ments are of two kinds: first, those in which the uterus is held or fixed in any position different from what we call the normal one; and second, those in which the attachments of the womb have become so loose that it is allowed to turn almost ad libitum forward and backward on a transverse axis, or to sag downward and perhaps ultimately even to appear in or before the vulva. Both kinds are embraced in the following varieties, which are important to the practitioner:

1. Prolapse or procidentia.

2. Anteversion (flexion), in which the immovable uterus is mostly found.

3. Retroversion (flexion), in which the uterus may be either fixed or freely movable.

I shall not differentiate between flexion and version, since it is not necessary for the purpose of this paper.

Etiology.—Harmony of opinion also prevails as to the different causes of displacements. The chief causes of the first kind—namely, displacements characterized by an immovable uterus—are inflammation and tumors. Inflammation leading to cellulitis (anterior or posterior) or to peritonitis, is due to infection during abortion or childbirth, to gonorrheal infection, or to lymphangitis starting in some way or other from any inflammatory process about the genital tract. This class is composed mostly of anteflexions. Tumors will push and hold down the uterus in almost any position.

The second kind of displacements—namely, those in which the uterus is freely movable—are caused by relaxation of some or all of the uterine attachments. The causes of such relaxation are: laceration of the perineum; subinvolution, which leaves the organ enlarged and heavy; prolonged recumbent position; overfilling of the bladder or rectum in childbirth; and excessive straining of the abdominal muscles, which occurs in hard work, chronic constipation, and during labor. Relaxation of all the nterine attachments leads to prolapse, whilst partial relaxation causes principally retroflexion.

Symptoms.—There is hardly a dissenting voice heard in explaining the symptoms of prolapse. According to its degree, they are a greater or less sense of bearing down or pulling down, a feeling of heaviness, and the disorders directly due to displacement of the urethra (bladder) and rectum.

In cases of anteversion or retroversion, the main complaints are: pain, vesical and rectal troubles, menstrual disturbances, uterine catarrh, and sterility. Nobody claims that these symptoms are pathognomonic of these displacements. The same kind of pains may be present in cellulitis, salpingitis, peritonitis, metritis, laceration of the cervix, etc. Difficulty of micturition might also be caused by one or other of these conditions. The same may be said of menstrual disturbances. Sterility at first seems to find a ready explanation in the forward-bent uterus; and yet how seldom do stretching and dilatation do any good, especially if uterine catarrh persists or if we accept the statement of modern authors that in a large percentage of eases the blame of sterility should fall on the husband on account of the frequency of gonorrheal orchitis. Nor is there any specific character to the more remote symptoms. Soreness in the lower part of the abdomen and about the stomach, headache, backache, neckache, flatuleney, loss of appetite, constipation, queer sensations about and distinct movements of the womb, mental depression, anemia, and hysteria, are frequently met with in the female patient whose uterus is in a perfectly normal condition.

It has been claimed that the tilting of the womb directly interferes with the circulation and with the nerves which run along between the folds of the uterine ligaments. The twisting of the blood vessels, it is said, will cause congestion by interfering with the natural flow of blood to and from the womb; whilst the consequent pressure upon the nerves will explain the various pains which the patient experiences. A little reflection will show that this is mere theory which is not borne out in experience. Remember, for instance, the effect which an unreduced dislocation of the humerus produces upon the vessels and nerves of the axilla. Directly after the injury there may be much swelling and severe pains, due to direct pressure of the dislocated bone. In a few weeks or months, however, notwithstanding the fact that the unreduced dislocation still presses upon the blood vessels, the swelling will disappear and the nerves and muscles will become paralyzed, because a collateral circulation has been established and because the nerves have undergone fatty degeneration and died. Now, who will

doubt that the chances of establishing collateral circulation in a displaced womb are all that could be desired, and that a pinched nerve fibre in the uterine ligament would degenerate just the same as one on the arm? As it is, however, patients with displacement complain for years, more or less, in the same way, which goes to show that their symptoms are due to something else than the influence of the displacement on the uterine nerves.

Treatment.—From the enumeration of symptoms of prolapse above given it is evident that the object of treatment in this form of displacement should undoubtedly be the restoration of the womb to its former position as nearly as possible. How this should be accomplished is not the subject of this paper. I might, however, briefly state that in younger persons, still in the child-bearing age, pessaries are advisable as a temporary measure. A time will, however, arrive when no instrument will retain the prolapse and an operation has to be resorted to. Also in older persons, when for any reason an operation seems not feasible, pessaries are allowable. I consider an operation upon the vagina to answer well enough in average cases, leaving Thure Brandt's method of uterine massage, ventro-fixation, or hysterectomy to special indications.

Anteflexion and retroflexion are the two varieties of displacement upon the proper treatment of which gynecologists widely differ. There are two diametrically opposed methods of handling such cases. The one, which may be called the mechanical method, is based upon the theory that the position of the uterus is the chief cause of the complicated and diversified symptoms, and tries to bring the uterus back to its normal position principally by means of pessaries; while the other entirely disregards the displacement as such, except in a few well-marked cases, and finds the explanation of the symptoms in other directions.

My experience has led me to adopt the latter view. This view finds its support in the fact, accepted by everybody, that there are no pathognomonic symptoms of ante- and retroflexion, and that almost every symptom enumerated by the text books may be explained also in some other way. It is the object of my paper to show what results may be obtained by applying this principle in our practice.

Whenever I take charge of a case of ante- or retroflexion, I make a thorough examination of the pelvic organs, often under anesthesia. Such an examination informs me as to the real position of the womb and the cause of its deviation, if present. The displacement, as such, I first entirely disregard. Any inflammatory process about the genital canal, however, is treated according to generally adopted principles, the chief feature of such treatment being rest, disinfection, and free discharge of retained pus or mucous secretion. This amounts practically to frequent dilatation of the cervical canal, curetting and washing out of the uterine cavity, and intra-uterine application of some disinfectant or astringent. In some cases it appears evident that the removal of a diseased ovary or tube offers the only chance for the patients to recover their health. Trachelorrhaphy also, in a few instances, is indicated to relieve discharge in congestion of the womb. I then turn to the subjective symptoms of the patient. Among these, bladder troubles take a foremost place. As I do not believe that pressure of the uterus upon the bladder causes frequent micturition, burning, and tenesmus, I closely inspect the vulva, and hardly ever fail to find something to account for these symptoms, such as urethral carunculæ, or vulvitis, gonorrheal or mechanical (masturbation), spreading to the urethra or bladder. I always draw the patient's urine, and often find evidence of cystitis or gravel. I am surprised how often bladder trouble in women is due to gravel. This may be due to our Chicago water. Such urine contains more or less free crystals of uric acid or phosphates, causing mechanical irritation from their sharp edges while passing through the urethra. Sometimes patients imagine that they pass "blood" with the most excruciating pains, whereas in fact the appearance of blood is due to nothing else than the abundance of uric-acid crystals. The urine may appear quite clear until we pour it in a glass and hold it up against the light, when the glittering crystals are recognized at once. Free drinking of water will relieve burning micturition and tenesmus in a few hours, thus corroborating the diagnosis of gravel.

The next most frequent complaint is constipation. How negligent women are in this respect is shown by the statement

that eighty per cent of so-called female complaints directly depend on constipation. My chief remedy is to impress upon the minds of the patients that by regular attention to this matter they will sooner or later cause the bowels to move in the most satisfactory manner. Flatulency will disappear when the bowels begin to move regularly, and when the patient is taught to avoid or to restrict the use of carbonaceous foods, to eat regularly, and to masticate her food well. Manual labor, housework, out-door exercise (such as shopping or marketing) will assist the proper action of the bowels, will strengthen the muscles, especially those of the abdomen and the perineum, will increase the appetite and bring back a general feeling of strength and improvement. The mind will be brightened up; nervousness, cold feet, rushes of blood to the head, sleeplessness, and the feeling of fatigue, will disappear. Amongst the better classes, early rising, walking, cold baths, and filling out an otherwise lazy, aimless life with some sensible occupation, will especially have a wonderful effect upon the nerves and general health. In the course of several weeks or months the patient may be justly called cured, while her uterus still remains in an anteflexed or retroflexed position, as the case may be.

I will admit that the cure of such a patient will be accomplished in this smooth way only upon the conditions that you are the first physician to treat her, that you show a great deal of patience in repeating the same directions over and over again, that she herself learns to understand the meaning of your orders, and that you do not mention the displacement at all. It is a queer fact that so many women will refer almost all their ailments to the womb. Any stomachache, any backache or headache, is a sure sign of womb trouble. A slight misstep, working on a sewing machine, lifting a window sash, or carrying a child oftentimes causes something inside to give way suddenly. Her friends tell her that the womb no doubt has turned, that the ligaments have become overstretched, and the like. She will soon see a physician, who corroborates her own notions by telling her that her womb was really out of place, but that he would lift it back again, and would prevent it from slipping out of place by an instrument. From that moment on the woman becomes a regular crank. Those are the innumerable patients that give

the ordinary practitioner so much trouble; that go from one office to another, from one dispensary to another; who will submit to any effort to bring the poor womb back to its imaginary normal position. They are the ones who suffer unnecessary pains and incur the expense of constant doctoring, and contract once in a while a severe attack of peritonitis from a too large pessary pressing on and injuring a prolapsed ovary or tube. This condition of affairs is a real disgrace to the profession, the more so since a majority of such cases are either girls, or young women who are anxious to become pregnant. We all know what misery pelvic inflammation is capable of bringing to a woman, yet every one of us has seen cases where such a complication directly followed the use of a pessary.

In order to substantiate my statements, I present the history of a few cases.

Six years ago a young country lady of 19 was brought to the Michael Reese Hospital in a wretched state of health. She was extremely anemic and emaciated; had no appetite, no natural action of the bowels, and no sleep; her body was in a constant tremor, and she had been unable to leave her bed. Her history was as follows: Some five months previous, while enjoying perfect health, she went to see an oculist for a slight eye trouble. He told her that there was not much the matter with the eye, that she was nervous, and that probably the womb might have something to do with it. Now, mind that up to this time she hardly knew that she had a womb. However, soon after, upon the suggestion of her mother and elder friends, the family physician was asked to make an examination. He found the os within an inch of make an examination. He found the os within an inch of the introitus, the fundus pointing backward, and diagnosed falling of the womb. From that time on frequent efforts were made to raise the womb digitally, and to keep it in place by a variety of pessaries. Consultants were called in from Chicago, who also found the falling of the womb to require a new pessary. All this treatment was kept up in spite of the patient's general health daily growing worse and her nervous system becoming totally upset. The late Dr. Byford saw the patient with me. We found the vagina remarkably short, the cervical portion elongated so that it was felt hardly an inch beyond the hymen, the fundus turned straight backward, everything raw, tender, and congested, but no cellulitis. We both were of the opinion that the use of the pessary and the frequent examinations in knee-elbow position were the direct cause of the poor girl's pitiful condition. All local treatment was discontinued at once, the case being managed only on general principles. The subsequent perfect cure demonstrated the correctness of this view. By the way, it seems impossible that this low position of the uterus, due to shortness of the vagina and elongation of the cervical portion, could be mistaken for falling of the womb; yet I remember two more such cases, where I removed a pessary intended to support a prolapse which did not exist.

It is not always easy to convince a patient who has been used to a pessary to remove it and to try to get relief from her symptoms by the common-sense treatment outlined above. Here is such a case: Three years ago a lady called at my office and requested me to look after a pessary which had of late begun to be uncomfortable. She was a healthylooking, strongly-built woman of 45, who had had four children, the last some eight years previously. Since that last childbirth she had "womb trouble" which necessitated the wearing of a pessary. A year ago she went to Germany, and, en passant, she consulted a leading gynecologist. His diagnosis was retroflexion requiring correction and another pessary. The patient went to his clinic and was kept lying on her stomach for five weeks; wool packings were used every other day; frequent bimanual lifting of the womb was praetised, and different pessaries were tried. She endured tortures, as she said, but was finally sent to a watering place, where she slowly recovered. It did not occur to her that no doubt the recovery at the bathing place was principally due to the cessation of those attempts at raising an exceedingly freely movable uterus. I removed a large Hodge pessary, and found a retroverted and slightly retroflexed uterus, freely movable, and with its cavity over three inches deep. I told the lady she might do without the pessary, if she would stop the daily injections with hot water; for in my experience I have found that frequent douches with large quantities of hot water keep the womb irritated and congested, and also excite the patient's nervous system in a general way. I also told her to educate her bowels to a regular movement every day, and to

continue the daily walks she had become so fond of at the watering place. At first she would not listen to my suggestions; she insisted that she was told to always wear the instrument, and that she knew she would be miserable without it. After much talking she finally left, rather disgusted, but with her Hodge pessary wrapped up in paper. I really thought she would find somebody, before returning home, who would put back the instrument. Two years afterward, however, she again called at my office to learn whether she was pregnant. Not finding the pessary-which I felt sure she must have had replaced, as she had never reported that she was getting along without it-I questioned her about it. She then told me that, at the suggestion of her husband, she risked taking my advice, with the result of finding out that she was much better off. She had also been successful in regulating the bowels-in fact, she considered herself in perfect health. I found the uterus where it was two years before, decidedly retroflexed.

Still another case may be added to demonstrate my views: Eight years ago I got charge of a ease of retroflexion complicated with uterine catarrh and a slight perineal rent. The patient also complained of nervousness, bearing down, rushes of blood to the head, and mental depression with a tendency to melancholia. She was wearing the third pessary (Hodge) within four months, and suffered considerable inconvenience from it. "You will become accustomed to it," she was told by her physician. The treatment I followed was: removal of the pessary; treatment of the catarrh by dilatation with tents and chloride of zinc applications; regulation of the bowels by means of proper diet; persistent soliciting of daily evacuations (she took daily injections for over a year); work, and cold baths. The result was very satisfactory. Through misfortune in her husband's business a great deal of housework fell upon her, but she bore up bravely. Only a week ago she told me that she enjoyed better health than ever. She works a great deal, attending to her duties as wife and mother. Her bowels are kept in perfect order. She has not been examined for three years, but the womb no doubt remains retroflexed.

By following the principles outlined above, I have been constantly diminishing the number of cases where I really thought that a mechanical correction of the malposition of the

uterus would be required in order to accomplish a perfect cure. These were cases of chronic metritis, where a bulky, hard or soft uterus, filling out Douglas' cul-de-sac, was freely movable and more or less easily brought forward either bimanually or with the aid of a sound. I have also often seen cases of firm adhesions get well without separating the adhesions—quite in opposition to the now fashionable mode of treatment. Only the other day I examined a patient on account of a suspected miscarriage, and found a retroflexed uterus, utterly immovable, the rectum running up to the left side of the fundus, and its passage being in no way interfered with. I have known that woman over ten years. She has never been sick a day, from which we see that, in her case at least, the retroflexed, adherent uterus had caused no symptoms whatever. In one case, however, I had determined to try to free an adherent, retroflexed uterus. It was a woman of 22, who, after her first confinement, complicated with fever, was kept in bed for four weeks. Three months after the confinement I found an entirely retroverted uterus seemingly adherent to the rectum with its entire posterior surface. The uterus was so soft and flabby that I first thought it necessary to tone it up by the protracted use of hydrastis. At the same time I gave her my usual directions concerning her general health. She improved so much that she thought the raising of the uterus not necessary, and stayed away after two months' observation. I have heard since that she gave birth to her second child. I have now four cases of retroflexion of a subinvoluted, large, movable uterus, which I think would be benefited if permanent support in the normal position were feasible; but since the object of this paper is rather to dwell upon the general principles of treatment, I will not discuss what means of redress I shall resort to.

One word about pessaries. B. Schultze, who is a great advocate of the mechanical method, has in his book brought forth the best argument to discredit their use. Everybody admits that the normal position of the womb is a slight anteflexion, and therefore the correction of retroversion would mean to bring the fundus uteri forward and *keep it* there. It is obvious that the Hodge pessary, which is much oftener used than any other kind, is not constructed with a view to support the anteverted uterus, because it never pushes the cervix backward

towards the sacral excavation, as it ought to-according to Schultze-in order to keep the fundus securely in an anteverted position. Assuming this view of Schultze to be correct -and I think it is-the improvement which patients feel, and which thousands of doctors who are advocates of the Hodge pessarv recognize, must be attributed to another cause than the pessary. The true explanation is auto-suggestion. The following case may be adduced as an illustration: A young lady of 19 coming back from Europe called at my office to continue treatment of the womb which was begun four months before in Germany. She had been curetted and a Hodge pessary inserted. I found a remarkably short vagina, profuse uterine catarrh, free broad ligaments, a retroverted uterus of normal size, and a general rawness of the parts which I thought due to local treatment and possibly aggravated by masturbation. I removed the pessary and discontinued the local treatment. The improvement was remarkable. After two months I told the patient to return in a month. She, however, left the city and stayed away two months. When she returned she felt entirely well and expressed the hope that she would continue so after the ring should be removed. I was so perplexed by this remark that I began to doubt whether I had really removed the pessary. Of course examination showed that it was not there, but I did not dare to tell the patient for fear she might get a relapse of her hysteria. She feels splendid now, and is still under the impression that she is wearing the pessary. In two months the time will be up when, according to our agreement, I shall "remove" it, or rather shall tell her that she has not worn it for four months. I also know of a case in the practice of my friend Dr. Dietrich where a woman never felt as well in her life as when she was wearing an imaginary pessary for six months.

It may be that my views are too radical, yet it is easy for any one who believes in the importance of the position of the uterus, and who also uses pessaries or some other mechanical device to correct a displacement, to test in his own office the soundness of my statements. Let him change his treatment of such cases for a year, and he will find that he has not in any manner thereby injured his patients, but on the contrary has greatly improved his results.

## THE SURGICAL TREATMENT OF ANTERIOR DISPLACEMENTS OF THE UTERUS.<sup>1</sup>

BY

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(With four illustrations.)

Anterior displacements of the uterus, when they exist to the pathological degree, are the opprobria of the gynecic art. It is indeed true that many wombs lean far forward without inducing symptoms, but it is likewise true that many of them that are thus malpoised do entail symptoms, objective and subjective, that frequently baffle our resources. It is a misfortune, too, that of the many displacements to which the womb is liable, those in which the organ deviates anteriorly to the normal axis are vastly the more prevalent. Thus in an aggregate of four hundred and seventy-four eases by Nonat, Meadows, Scanzoni, Valleix, and Hewitt, quoted by Thomas and Mundé, there were two hundred and ninety-four anteflexions and one hundred and eighty retroflexions; while Mundé himself reports two hundred and ninety-four anteflexions, thirty-three retroflexions, and ten lateral flexions in a total of three hundred and thirty-seven eases. As the latter author is disposed to look upon anteflexious in minor stages as "a physiological (even congenital) condition," it is legitimate to infer that his statistics are based upon observations of displacements in the pathological degree. The conclusion is forced upon us, then, that of all the displacements of the uterus those of the anterior variety are the more frequent; while the records of practice will force us likewise to the conclusion that of all the womb displacements those of the anterior variety are less amenable to treatment than are any of the others.

It is not designed here to discuss all of either the etiological

<sup>&</sup>lt;sup>1</sup> Read at the fourth annual meeting of the Southern Surgical and Gyne-cological Society, at Richmond, November 12th, 1891.

or pathological factors involved in these cases, but to allude to such of them only as may be necessary to give point to suggestions of practice. Among the causative conditions may be mentioned (1) all enlargements of the upper portion of the uterus, whether hyperplastic or neoplastic; (2) downward traction by the anterior vaginal wall, as in cases of cystocele consequent upon perineal laceration or insufficiency; and (3) backward traction by contraction of the utero-sacral ligaments. There are many minor causative conditions which may with propriety be grouped with either of the foregoing classifications. The essential pathological conditions involved in anterior displacements are (1) inversion, mechanical interference with the venous circulation resulting in passive congestion and consequent nutrient disturbance in both the endometrium and the parenchyma of the organ; and (2) anteflexion, atrophy of the anterior wall at the angle of flexion, with partial or complete occlusion of the canal at that point, and retention of secretions and secondary changes within the endometrium.

The true logic of treatment in these, as in all other cases, is, first, to remove the cause whenever practicable, and, next, to overcome conditions which have become established through the persistence of such cause.

In the discussion of treatment in this paper the term "surgical" is employed in contradistinction to any method of treatment by pessaries, tamponade, or electricity. It may be premised that all surgical methods devised for the relief of these conditions should be directed, first, to the removal, when practicable, of the causes, then of the diseased conditions proper, and finally to the readjustment of the diseased organs to the normal physical forces of the pelvis.

The treatment of anterior displacements that depend for their existence upon either hypertrophic or neoplastic enlargements must resolve itself into the treatment of those conditions and need not be mentioned further in this connection.

The treatment of anteversions complicated with perineal insufficiency and cystocele should be based upon a full recognition of the causal relation which the supra- and intravaginal conditions sustain to the displacement. If we look upon the uterus as a simple lever, with the fulcrum furnished at and by the pelvic diaphragm, we can readily understand how down-

ward traction upon the cystic wall is calculated to draw the uterus forward, remembering, as we do, that the utero-vesical attachment is higher than the insertion of the utero sacral bands posteriorly. Reposition of the malpoised organ can be of little avail, while an effort to retain it by pessaries or tampons, if not actually mischievous, can only prove tentative so long as the causal condition persists. It has been my rule for several years to treat these cases as follows: I denude the anterior vaginal wall from a point at the lower edge of the bulging septum upward, the area forming an ellipse varying in length from two to three inches and in breadth from an inch to an inch and a half. So far the operation does not differ from the ordinary procedure for the relief of cystocele. At the upper extremity of the ellipse, however, and continuous with it, I remove a patch of tissue the width of the cervix, and extend this denudation back over the anterior wall of the cer-The vesico-vaginal septum is now narrowed in the usual way by interrupted sutures of silkworm gut up to the point where what may be properly called the extension of the dissection is reached. Instead of narrowing this particular area, the cervix is simply stitched fast to it by interrupted sutures extending laterally through the vaginal and cervical mucosa. In this way the cervix is secured in its forward position and the fundus is thrown upward and backward. A further advantage is realized, in that the tendency of the uterus to ascend furnishes a convenient suspensory arrangement for the wall of the bladder, thus resisting a possible tendency to the recurrence of the cystocele.

Since I became conversant with the views of Schultze I have become more and more convinced that the chief etiological factor in cases of anteflexion is to be found in contractions, either congenital or inflammatory, of the utero-sacral ligaments. There are, to my mind, relatively few cases of anteflexion of either fundus or cervix, or both, in which this contracture does not play an important part—a fact which accounts largely for sacralgia and retro-uterine tenderness as persistent symptoms in this deformity. For the relief of this condition, rest, pelvic depletion, and manipulations such as are recommended by Schultze for the stretching of the ligaments, should be practised. In a few cases in which I have done ab-

dominal section for other purposes, I have divided these bands, having first passed sutures through each ligament and to either side of the proposed notch. The result was the immediate relief of the tension and the recovery of my patients without the persistence of the sacral pain which is so frequent and annoying a sequel in cases in which this contraction exists and is not relieved. I do not wish, however, to be understood as advising this procedure as a primary operation.

There are certain cases, however, in which there is persistent trouble from the flexure after the contraction of the ligaments has been overcome. In these cases the continuance of trouble is manifested by vesical pressure, obstructive dysmenorrhea, and sterility. For the relief of this condition I have devised an operation which is really but an adaptation of the principle enunciated by Dudley, whose operation in turn is but a modification of that of posterior cervical discis-

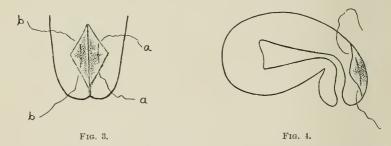


Fig. 1.—First step. Incision of posterior lip of cervix.

Fig. 2.—Second step. Removal of an ellipse of tissue from the external edges.

sion devised by Sims. The technique is essentially as follows: The patient is placed in the Sims position, the vagina is rendered aseptic, and, providing there is an evident catarrhal condition of the membrane, the cervical canal is vigorously curetted. The posterior lip is seized with a volsella, drawn downward, and divided by a median incision up to the vaginal juncture (Fig. 1). The lips thus formed are now separated, and from the raw surface of each a crescentic piece of tissue is removed (Fig. 2). This exsection does not reach the endocervical mucosa, but it dips down a quarter of an inch on the outer side and extends the entire length of the cut surface. A curved needle with the eye in the point is now passed into the lower end of the right lip of the cervix and brought out at the upper angle of the incision. It is now threaded with silkworm gut and withdrawn. The left lip is

treated similarly. The two ligatures thus passed (Figs. 3 and 4) are drawn up and tied. It will now be found that the os has been carried upward and backward the distance of the intravaginal segment of the cervix. It will be further observed that the anterior wall of the uterus in its entire length has been largely straightened; and it will be further found, on passage of the sound, that the intracervical canal is nearly straight and practically free from obstruction. It has been suggested by operators, from Sims to Dudley, that the anterior wall should be incised within the cervical canal at the point of flexure. This is a dangerous expedient. The amount of atrophy which always exists at this point in the anterior wall cannot be accurately estimated, nor can any so-called uterotome be gauged to avoid possible wounding of the circular artery. Even if it can be incised safely so far as hemorrhage



Figs. 3 and 4.—Third step. Method of passing sutures; a to be tied to a, and b to b.

is concerned, it may prove futile by the immediate union of smoothly incised but closely approximated surfaces. If these surfaces are kept apart by any such mechanical device as a dilating stem, the danger from septic infection becomes imminent.

A plan of treatment for flexures which has become very popular of late years is that by forcible dilatation. I have only a word to offer under this head. Forcible dilatation is a blind operation. Whether we use the instruments devised by Goodell or by any other of the numerous operators in this field, the fact remains that we cannot estimate either the force employed through the instrument or the power of resistance possessed by the cervix. In view of this fact, and in view of the further fact that this operation cannot be practised with-

out more or less contusion and in many instances laceration of the intracervical structures, we must conclude that septic infection is very liable to follow its adoption. It may be said that proper aseptic precautions have not been practised in a given case in which purulent accumulations exist in either the cellular tissue or the appendages as a sequel of the operation. I have had these unfortunate results in cases in which I was entirely satisfied as to my aseptic precautions; I have irrigated the vagina with one to one thousand bichloride solution; I have curetted the cervix and washed out the canal: I have boiled my instruments and parboiled my hands; and I have done the dilatation under a continuous stream of phenolized water, and still the mischievous consequences ensued. It was evident that this was not the result of inoculation by pus-formers from without, but that the mischief came from the destruction of tissues incident to pressure, the amount of which I could not estimate, and the disastrous consequences of which upon the molecular elements of the tissues I could not foretell. It is in this transmatism to the cervix that we have a starting point of cellular abscesses and pus tubes. I therefore look upon this operation with grave distrust; and although we may be forced to resort to it in exceptional cases, I feel that it were better that we limit its application to the fewest possible instances.

In conclusion, then, I desire that the Society consider—

1. The etiological relationship of contracture of the uterosacral ligaments to anteflexion.

2. The possibility of overcoming this condition by such conservative measures as rest, pelvic depletion, and appropriate manipulations.

3. The feasibility of removing the obstructive dysmenorrhea and the sterility usually incident to these cases by the plastic operation which I have described.

4. The inexpediency of forcible dilatation for the relief of these cases, and its inability to effect a permanent cure.

#### PERIMETRITIC CYSTS OF INFLAMMATORY ORIGIN.

BY

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By sero-fibrinous peritonitis we generally understand an inflammation producing a solid exudation, which may either become absorbed or lead to a thickening of the peritoneum in the form of bands, adhesions, etc. This result certainly takes place in a majority of cases, the serous effusion produced in connection with the fibrinous exudation being, as a rule, so insignificant as to escape observation—whether it sinks into the pelvic cavity or becomes enclosed by the plastic exudation. The fluid is absorbed and of but little consequence in the clinical history. On the other hand, however, there are cases of peritonitis in which an effusion of a considerable quantity of serous fluid takes place. These resemble the pleural serous exudations; in either case the accumulation of fluid is the chief feature, and the absorption or aspiration of the fluid as a rule indicates the termination of the disease.

It must certainly have occurred to many that serous exudations in the abdominal cavity are rare as compared with those of the pleural cavity. Special conditions must no doubt exist that one and the same disease should so unequally affect two membranes of the same anatomical structure and physiological function. The difference in topographical relations alone cannot explain this discrepancy, notwithstanding that an accumulation of fluid may take place more readily in a single uninterrupted space than in the multipartite peritoneal cavity, in which the conditions for absorption are more favorable and encysting more rapid. In all probability, the pressure exerted by the abdominal walls on their contents is an important factor. For if an increased blood pressure is necessary, besides the changes in the walls of the blood vessels, to produce an exudation, then we can with good reason accept the abdominal wall as an efficacious barrier against the formation of serous exudation. This may also account for the more frequent occurrence of peritonitis with serous effusion in women who have borne children.

The favorite seat of serous peritonitis is in the pelvic peritoneum. On this account it has also been named serous perimetritis and serous pelveo-peritonitis. It may develop acutely after childbirth and gonorrhea; usually, however, it complicates some chronic inflammatory condition of the tubes, the ovaries, or the adjacent peritoneum. As the result of some renewed irritation—imprudence during menstruation, the passage of the sound, a vaginal douche, etc.—an exacerbation of the original trouble, complicated with a serous pelveo-peritonitis, is produced. Notwithstanding that the primary inflammatory conditions may, in a great measure, be due to puerperal or gonorrheal infection, still the complicating peritonitis may be non-infectious in character.

A purulent salpingitis, especially that variety in which there is considerable thickening of the tube with but little production of pus, may excite a serous pelveo-peritonitis. This combination of a serous with a purulent inflammation we also find in other parts of the body; thus serous pleuritis may be associated with caries of the ribs on the same side, and combined with abscess of the liver we not infrequently find a serous pleuritic effusion on the right side. In all probability the enclosing layers of the abscess act as a filter, preventing the passage of bacteria, so that the neighboring serous cavities are protected against a purulent infection. A benign inflammation may, however, occur.

It is not my intention to describe in detail the symptomatology of serous pelveo-peritonitis. The phenomena which we are accustomed to find in every peritonitis again present themselves. Amongst these are fever, pain, vomiting, and tympanites. Sometimes the one and sometimes another predominates. The characteristic feature, however, of the disease under consideration is produced by its location, together with the formation of a tumor containing serous fluid.

I would not like to leave a rare complication unnoticed, namely, the excretion of fibrinous masses from the uterus. I have observed these in a case of pelvic abscess, and again in a case of serous peritonitis. In appearance they exactly resemble

the yellow, translucent fibrin coagula which are frequently found in the right auricle and ventricle at autopsies. Their size varies from that of a pea to a nut, and they are probably the product of an endometritis. I have observed these fibrinous masses for weeks in a patient in whom uterine hemorrhage was absent.

Local examination at the beginning of the disease reveals merely a tender swelling in the pouch of Douglas or at the side of the uterus. These conditions, however, soon change. In a short time, sometimes after the lapse of two or three days, we are surprised at the rapid increase in size of the inflammatory swelling. Some cases of serous pelveo-peritonitis are developed so rapidly that in a short time the entire pelvis is filled with serous exudation. Douglas' pouch forms a convex tumor bulging into the vagina, the uterus is pressed forward against the symphysis, and the lumen of the rectum is obstructed by the projecting exudation.

Should the exudation ascend, then the intestines are forced upward and the entire lower portion of the abdominal cavity becomes filled with fluid. Anteriorly the fluid lies in immediate contact with the abdominal wall, and its presence can be demonstrated by palpation and percussion. The upperlimit of the exudation is marked by a zone of greater resistance, sometimes hard, sometimes doughy, and in places producing crepitation on palpation. This boundary by no means presents a straight line from side to side. On the right side we may get flatness over the entire region of the cecum, while on the left side the exudation may hardly reach a finger's breadth above the pelvis. The reverse may also occur. On bimanual examination of such exudations, notwithstanding that fluctuation can be but imperfectly demonstrated if the cyst be tensely distended, there can be but little doubt as regards the diagnosis of a cavity filled with fluid.

All serous exudations do not fill the pelvis symmetrically. The accumulation may occur in one of two ways: the effusion either gravitates into Douglas' pouch and then ascends, producing in the adjacent peritoneum a fibrinous exudation leading to capsulation; or the serum is poured out into fibrinous masses previously formed in the pelvic peritoneum, distends these, and thus leads to the formation of inflammatory cysts.

Frequently enough both processes occur side by side. Occasionally only the second mode of serous effusion is present, or the exudation in Douglas' pouch may become absorbed while the cyst, which lies at a higher level, remains stationary. From what has been said it certainly does not appear strange that the physical signs of serous exudation may vary considerably. Douglas' cul-de-sac may be entirely free, and the cyst may be situated at a higher level to the right or the left of the uterus, or it may be entirely independent of the uterus, in the iliac region. Several cysts may even exist at the same time and in different regions of the lower abdominal and pelvic cavities.

I am, however, describing conditions which are to be considered as the final stages of serous pelveo-peritonitis. The stage of well-defined, either round or oval cysts is preceded by a tedious and painful illness; two to three months are not too high an estimate.

The first stage of the disease is characterized by the symptoms of an acute inflammation with serous effusion, and this is not infrequently prolonged by repeated attacks of peritoneal inflammation. The second stage is marked by a cessation or remission of all irritative phenomena, and an attempt on the part of the organism to bring about the absorption of the exudation. It is possible for an exudation the size of a child's head to become entirely absorbed, so that at the termination of the disease nothing remains, except perhaps an adherent retroflexion, an abnormal fixation of the ovaries, or a peri-ovaritis. But even the adhesions may in time stretch to such an extent that the mobility of the pelvic organs finally becomes normal. Nothing remains of this severe disease, except the above-mentioned chronic inflammatory conditions of the genital tract, which were the primary cause of the serous peritonitis.

The serous effusion in Douglas' pouch or in the fibrinous masses may remain stationary for an extraordinary length of time. The originally diffuse inflammatory mass is absorbed, with the exception of the fibrinous layer immediately surrounding the fluid. This becomes denser and harder, becomes organized, and finally forms a dense wall around the fluid, bound by firm adhesions to the adjacent viscera. Even now an absorption of the fluid is not at all uncommon. Patients

may be convalescent; they are able to attend to their former occupations, being scarcely annoyed by the presence of the cyst.

Suppose that such a patient should come under the treatment of a physician who has not observed the case previously. To what errors is he liable, and what landmarks will bring him on the right track? Any eavity, filled with fluid, in the lower abdominal or pelvic regions may be mistaken for an inflammatory cyst. Medium-sized ovarian cysts with inflammation of the adjacent peritoneum, hydrops of the tubes, cysts in the broad ligament—some of which are of inflammatory origin—and ecchinococci which only exceptionally find their way into the pelvis, may lead to an error in diagnosis. An encysted exudation—and this must not be lost sight of in making the diagnosis—is always the result of a previous acute pelveo-peritonitis. The tumor is firmly adherent to all the adjacent tissues, therefore immovable, and is more or less tender on palpation.

Should even now some doubt exist, then we must not omit to resort to an exploratory puncture—a proceeding entirely harmless and of positive diagnostic value. The fluid obtained by aspiration is of a yellow color, transparent, and distinguished by its large percentage of albumen. The specific gravity, in a case in which I removed the exudation from Douglas' pouch by means of an aspirator, was 1.015.¹ On microscopic examination we find a few lymph and endothelial cells, which frequently contain fat granules. Shreds of fibrin are also present. The examination of the fluid obtained by exploratory puncture will positively decide the character of the tumor.

There is a variety of tubercular peritonitis in which such encysted exudations are occasionally found: namely, a tubercular peritonitis characterized by diffuse inflammatory processes, with thickening and the formation of tumors in the omentum, the mesentery, and the peritoneum. This may

<sup>1</sup>According to Reus' formula, this would correspond to two and eighteenths per cent of albumen, whereas transudations contain hardly two per cent. While the difference between transudation and exudation is founded upon the percentage of albumen, a sharp boundary line does not exist. Furthermore, mixed forms are not uncommon, in which transudation is added to an originally inflammatory exudation.

develop in the upper and lower parts of the abdominal cavity, and also in the pelvis. Secondarily it may spread to the tubes, or the tubercles may occur primarily in the tubes and later infect the peritoneum. The diagnosis of these tubercular peritoneal tumors associated with encysted exudation offers great difficulties. Most frequently they are confounded with ovarian cysts, and the error is only discovered after laparatomy. This is especially liable to occur when the disease is local. Catarrh of the apices of the lungs, or pleuritis, when present at the same time, should always arouse suspicion. Should a tubal swelling combined with an encysted exudation co-exist with lung trouble, then the possible presence of tubercular peritonitis consequent upon a tubercular salpingitis must not be lost sight of.

Although a benign serous exudation complicates by preference a chronic inflammation of the tubes due to either a gonorrheal or puerperal infection, a positive diagnosis can be reached by the following considerations. Benign serous cysts present the final stage of a previous acute inflammation. The diffuse inflammatory infiltration has been absorbed and a round, smooth cyst remains. In tubercular pelveo-peritonitis the diffuse, nodular inflammatory products are most prominent, and increase during the course of the disease. In the former case the disease tends to recovery, while in the latter a fatal termination is the rule.

Hemorrhage may occasionally occur into serous cysts. The serous fluid then extracts the coloring matter from the red blood corpuscles, and in cases of large hemorrhage assumes a dark red color. In thin layers, by transmitted light, the fluid generally appears clear. Microscopically we recognize, besides white blood cells, the decolorized red blood discs as pale spherical bodies. Serous pelveo-peritonitis with secondary hemorrhage from the wall of the cavity has been considered as a special variety of retro-uterine hematocele—incorrectly, however, because the hemorrhage does not enter into the etiology or course of the serous pelveo-peritonitis. It generally represents a complication of subordinate importance, whereas in retro-uterine hematocele it is the chief factor and directly produces the symptoms. Furthermore, the clinical course of retro-uterine hematocele, especially the changes which

the blood undergoes in the abdominal cavity, is so characteristic that a discrimination from secondary hemorrhage into serous cysts presents no difficulties.

Hemorrhage in hematocele occurs either free into the abdominal cavity, gravitates into the pouch of Douglas, and becomes secondarily enclosed by adhesions; or it may occur into previously formed fibrinous pseudo-membranes (pelveoperitonitis hemorrhagica). The effused blood in the abdominal cavity remains fluid for a time, and, if present in considerable quantity, forms a tensely stretched tumor in which fluctuation is not always demonstrable. In course of time the blood coagulates, the expressed serum is absorbed, and the clot, which at the beginning is succulent, becomes inspissated, harder, and nodular. In retro-uterine hematocele the cystic character is most pronounced at the beginning, and gradually disappears during the course of the disease; while in serous pelveo-peritonitis we have the reverse. At the beginning of the disease we are in doubt whether we have to deal with a solid fibrinous exudation or perhaps a cellulitis; later, as the serous exudation increases, the possible existence of a hematocele must not be lost sight of. I must admit that those cases of serous pelveo-peritonitis in which there is a rapid accumulation of fluid in Douglas' pouch combined with displacement of the uterus, exactly resemble retro-uterine hematocele, and I would not attempt to make a positive diagnosis without further observation, or an exploratory puncture which, in the case of fresh hematocele, would vield pure blood with partly well preserved, partly stellate and shrunken red blood corpuscles.

One disease remains to be considered which might lead to an error in diagnosis. I refer to pelvic abscess. This may develop acutely; or insidiously, requiring a long time for its formation. It may be situated in the pelvic peritoneum or in the pelvic cellular tissue. Its occurrence is always characterized by repeated chills, sometimes resembling typical malaria, by colliquative sweats and a marked depression of all bodily functions. Such patients are chronic invalids, and do not convalesce until the poisonous centre is removed from their system. Serous pelveo-peritonitis, on the contrary, has its climax, and this is followed by improvement. But is it

not a possibility that the contents of a cyst may become purulent? This is possible, but not the rule. The suppurative character in the great majority of cases manifests itself at the very beginning.

I have above stated my reasons for considering serons pelveo-peritonitis a benign disease. It might be caused by benign or infectious inflammatory processes in the tubes, ovaries, etc. In the latter instance, however, the progress of infectious germs would be checked by adhesions which form a protective barrier. The favorable termination in the majority of cases—I do not include the rare and unfavorable cases of tubercular origin—is also in accordance with this view. Even delicate women in whom the peritonitis had spread almost to the umbilicus have recovered from the disease. Serous pelveo-peritonitis is a local affection. There are no deleterious substances circulating in the blood, as is the case in infectious diseases, where they so frequently produce a degenerating influence upon the heart, brain, etc.

The majority of physicians at the present day probably agree that the best mode of treatment in the irritative stage of the inflammation is the local application of ice, with opium internally. The results obtained by this plan of treatment are so favorable that we have no reason to pay any attention to the proposal of administering cathartics at the beginning of the inflammation. I prefer the application of a large, round ice bag to the abdomen to warm applications in every instance. All patients, even the most delicate and prejudiced, can bear them, provided we have the energy to insist upon their use. The degree of cold can be regulated by placing one or more layers of linen between the bare skin and the ice bag. The effect of the cold is to diminish the congestion, relieve the pain, and reduce the temperature. It permeates the abdominal wall and has a cooling effect to a certain depth. In acute ascending pelveo-peritonitis there is no better remedy for the prevention of threatening heart failure due to accumulation of blood in the abdominal vessels, than the application of one or two ice bags over the entire abdomen. The temperature of the body is reduced and the pulse becomes fuller and slower. Opium is given in doses of one grain every two hours, and increased, if necessary, until symptoms of poisoning appear. Should severe vomiting be present, then morphine is given hypodermatically or in suppositories.

The diet is an important factor in the treatment. Fluid food is to be given often and in small quantities. Instead of milk give kumyss, buttermilk, or sour milk. The last two are often well borne, as refreshing and nourishing fluids, by patients with whom milk disagrees. In addition give oatmeal and barley with broth, prepared either as peptones (Rudisch Sarco-Peptones), or according to Liebig's formula, as a cold infusion of beef with the addition of a few drops of dilute hydrochloric acid, and heated to boiling.

Regulation of the bowels requires special attention. Should severe peritoneal irritation be present, then we can confidently wait for four to five days. Now, however, it is advisable to produce a regular passage, either by the administration of warm mucilaginous injections containing one to two tablespoonfuls of castor oil, or by the internal use of castor oil. This is a matter of great importance, because the dried and hardened feces which have accumulated in the colon may give rise to colic and an exacerbation of the peritonitis.

After the acute peritoneal irritation has ceased and the symptoms become more stationary, then a resorbent treatment is indicated: Priesnitz's wet dressing, hot mucilaginous vaginal douches, applications of tincture of iodine, iodineglycerin tampons, ichthyol-glycerin tampons, hot mucilaginous rectal injections containing glycerin, electricity, warm baths, massage, etc. Internally, iodide of potassium, salicylate of sodium and ichthyol, may be given. Different physicians employ different methods, but they all accomplish the desired result. As a rule, several of the remedies are employed at the same time—for example, Priesnitz's wet dressing with hot vaginal and rectal douches. I generally add compression by passing a roller bandage over the oiled silk covering the moist compress. These applications are changed four times daily and remain in place during the night. I have also used ichthyol-glycerin tampons (1 in 20), as recommended by the Strassburg Gynecological Clinic, and am well satisfied with the results obtained. I also employed these tampons in patients suffering from peri-ovaritis, salpingo-ovaritis, and pelvic exudations, and can confirm the superiority of ichthyol as an antiphlogistic and anodyne remedy.

Most cases of serous pelveo-peritonitis heal perfectly on application of the above-mentioned remedies. Exudations the size of a child's head may become entirely absorbed, although six months or more may be required before the last traces disappear. But it is in aspiration that we have an excellent and harmless remedy to shorten the duration of inflammatory cysts which remain stationary for a long period. Aspiration is only resorted to in cases where the cyst lies in immediate contact with the anterior abdominal wall or bulges into the vagina. There is no danger connected with this proceeding, provided antiseptic precautions are employed. It is not even necessary to empty the cyst completely, since a partial withdrawal of the fluid frequently accelerates the absorption of the remaining fluid. Should the fluid reaccumulate, then aspiration must be repeated. In order to avoid this repeated puncture it has been recommended to empty the cyst by incision. I opened a serous cyst through Douglas' pouch and plugged its cavity with iodoform gauze. A complete cure followed without any reaction. In two other cases, in which the cysts were developed above the pelvic cavity and in close proximity to the anterior abdominal wall, I aspirated about three fingers' breadth above the middle of Poupart's ligament without experiencing a reaccumulation of the fluid.

CLINICAL CONTRIBUTION TO THE SUBJECT OF ECTOPIC GESTATION.

BY

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In August of 1891 I saw in rapid succession two cases which, in strict symptomatology, warranted the diagnosis of ectopic gestation. Absolute certitude of diagnosis I cannot offer, for the reason that, not having resorted

to abdominal section, I cannot show the ruptured tube, ovum, chorionic villi, or blood clot—proof of this nature alone carrying conviction to the minds of the gentlemen who claim that the knife is the only justifiable therapeutic agent. It being the lot, however, of all who record similar instances to have doubt east upon the diagnosis, the criticism my report may evoke does not deter me from making this contribution to the list, already long, of instances of ectopic gestation treated by electricity. I do so with all the more readiness in that, having for years been a pronounced advocate of this method, one of the instances was followed by a chain of symptoms which, if credited to the agent (electricity), speak against it. Any measure, whether surgical or the reverse, can alone be judged fairly by its fruits, good and bad.

Case I.—On August 1st the late Dr. H. G. Lyttle, of Astoria, asked me to see Mrs. R. with him. She was 28 years of age and had had one child five years previously. Her menstrual periods had recurred with regularity up to the 16th of June. She then flowed four days, the ordinary duration of her periods. The July period, due the 14th, did not appear. On the 21st of July she had an attack of abdominal pain associated with "spotting" from the vagina. On July 28th she began to flow. Numerous clots were passed and the abdominal pains returned. On August 1st I examined her under chloroform. The patient was still flowing moderately and the pains were colicky. The uterus was enlarged, the cervical canal patulous. The dull curette removed a few vegetations and membranous shreds from the uterine cavity. To the right of the uterus the enlarged tube was readily palpated. This tube was movable, semi-fluctuating, congested (as evidenced by the pulsating vessels). My diagnosis was ectopic (tubal) gestation advanced probably to the sixth week. There being no evidence of present or impending hemorrhage, I felt fully justified in recommending electricity. The arguments for and against it, and the alternative method (abdominal section), having been fully explained to Mr. R., he selected this agent. Dr. Lyttle administered galvanism on four alternate days, Mrs. R. being kept in bed. I am not in a position to state the current strength, as no meter was included in the circuit.

On August 11th I was requested to see the patient again. The abdominal pains still remained; the dribbling from the uterus had ceased; the right latero-posterior cul-de-sac was occupied by a tense tumor; the uterus, still enlarged, was pushed to the left and anteriorly. This examination was also under chloroform. There was no history of collapse; the pulse was a trifle rapid, but not thready. It was evident, however, that rupture of the tube had occurred into the broad ligament. The hematoma was so tense that I feared intraperitoneal rupture if I left it for absorption. Abdominal section, in view of the impossibility of enucleation, did not seem justifiable. After fully discussing the situation with Dr. Lyttle and with Dr. Hobart Cheesman (who was present on this occasion), the conclusion was reached that the wisest course to pursue was vaginal incision. I agreed to this with all the more readiness in that my results, from selecting the vagina as the point of attack of fluid-containing tumors which present there, have uniformly been successful. Aspiration, incision, divulsion were the successive steps which enabled me to clear out the cavity of the hematoma with my finger. I obtained only clots. I washed out the cavity with a two-percent hot creolin solution, and packed with gauze. There was absolutely no untoward reaction. The gauze was removed by Dr. Lyttle in thirty-six hours, and a drain (also of gauze) was inserted. At the end of a week (August 18th) the cavity had closed and the patient was rapidly convalescing. At this date, locally, there existed an induration in the right broad ligament; the uterus had decreased in size; the patient still complained of occasional pelvic pain and had a moderate sero-sanguinolent discharge.

On the evening of September 2d the patient had a fainting spell and the pulse became rapid again. On September 3d I again saw her. She complained in particular of rectal tenesmus. The pulse rate was 120 and strong. Locally the rectouterine cul-de-sac was filled with a boggy mass which pressed the uterus forward. The diagnosis of hematocele was made, and was verified by the aspirator needle. Using the needle as a director, I made a small incision with a narrow-bladed bistoury, enlarged the opening with a steel-branched dilator, cleaned out the cavity with the finger and the dull curette,

washed it out with a fifteen-volume solution of peroxide of hydrogen, and packed it with seven-per-cent iodoform gauze. In thirty-six hours I removed the packing and inserted a T rubber drain tube. The cavity was irrigated daily by Dr. Lyttle, and in ten to twelve days it had closed.

The latter part of October I had an opportunity to examine the patient. Her general health was excellent. The uterus was movable and approximately normal in size; a hard nodule in the right broad ligament and posterior to the uterus marked the sites of incision.

Remarks.—The prime query this case elicits is: Was the application of the constant current responsible for the rupture? That such will be claimed I do not question; yet in my own mind there is scope for doubt, since the patient had advanced almost to the period when spontaneous rupture often occurs. The case has not shaken my faith in the "electrical" treatment of early ectopic gestation in the pre-rupture stage, but it will render me rather circumspect in insisting in the future that the current strength shall be always measured, and administered through a rheostat in order to limit the likelihood of break in a large quantity current. I also frankly admit that, notwithstanding the ultimate brilliant result, the patient was subjected, all told, to a risk equal to that she would have run had I, when I first saw her, extirpated the enlarged tube. The vaginal incision of the hematoma was certainly a hazardous procedure and contrary to high authority, which says "leave it to Nature or attack per abdominem." The hematoma was so tense, however, that I feared the first alternative, lest intraperitoneal rupture should occur. The patient was not in a hospital, where abdominal incision could have been resorted to on the occurrence of such a grave accident. Her circumstances and surroundings altogether were such as made me feel that I was face to face with a case which warranted being called an exception to a rule. result was proof of wise choice.

As to the etiology of the subsequent hematocele, I can only theorize without reaching definite conclusions. The immediate opening per vaginam needs no defence. To wait on Nature means, as a rule, protracted convalescence, with the possibility at any time of suppuration. When satisfied that

active hemorrhage has ceased, immediate evacuation and drainage, when performed aseptically, mean, in my experience, speedy cure.

Case II.—On August 6th I was asked by Dr. C. S. Cole, of this city, to examine the following case. I record only the salient points, seeing that Dr. Cole will publish it elsewhere in full.

Mrs. B., married, nullipara, regular in her menstruation up to June 16th. At this period she did not flow the customary length of time. The July period, due the 14th, did not appear. A few days afterwards Dr. Cole was asked to see her. He found her suffering considerable abdominal pain of a colicky nature, examined her thoroughly, and asked for counsel. He did not mention his diagnosis to me. The conclusion I reached was absolutely unbiassed. The patient's abdominal walls were thin, and the combined examination enabled me, without anesthesia, to map out distinctly each pelvic organ. Bimanual vaginal and rectal examination gave me the following information: The uterus was anteflexed, movable, not specially enlarged. The right tube, compared with its fellow, was distinctly enlarged. The tube was movable and at a lower level in the pelvis than normal. The combined rectal examination certified the results obtained through the combined vaginal.

I reached the diagnosis of probable tubal gestation, and found that this opinion was shared by Dr. Cole. He agreed with me that the case warranted electricity, and on stating the facts fully to the patient and her husband the advice was accepted. The patient was removed to a hospital, and there, with every preparation made for abdominal section in the event of rupture, galvanism was administered, a rheostat and milliampèremeter being in the circuit. The average quantity of current on each occasion was fifty milliampères. The current was occasionally interrupted.

On August 31st I was requested to see the patient again. Pelvic exploration was equally satisfactory and revealed a symmetrically enlarged uterus, softening at the tip of the cervix, violet-hued discoloration of the nrethral bulb, no enlargement of the right tube. My diagnosis on this occasion was uterine pregnancy.

On November 12th Dr. Cole sent the patient to my office for a third examination. The uterus was symmetrically enlarged to the size customary at the fourth month of gestation, and I so pronounced it.

Remarks.—In reporting the above case before the Section on Obstetrics and Gynecology of the New York Academy of Medicine, Dr. Cole entitled his paper "A Clinical Record: Ectopic Gestation?" He made use of the interrogation mark because the conclusion we had both reached, although we could not justify it by proof beyond that of our competency to reach a diagnosis, was that we had seen an instance of ectopic gestation converted into uterine. The facts to which we could certify were: The early history, rational and physical, of ectopic gestation; the administration of galvanism; the disappearance of the tubal enlargement; the uterine gestation. The sequence was clear, and yet we could not explain how galvanism could cause the ovum to travel from the tube into the uterus; neither, however, could we explain the disappearance of the tubal enlargement followed by the uterine enlargement, except on the assumption that an impregnated ovum had escaped from the former into the latter organ. The instance, therefore, must find its place with the cases of Mundé, Garrigues, and Bache Emmet, however sceptical we are all inclined to be, owing to our inability to comprehend the why and the wherefore. It is to be remembered, however, that there is strong probability for the assumption that the human ovum is often impregnated before it reaches the uterus, and, therefore, that in the instance recorded Dr. Cole and I may simply have had our attention called by the history of missed periods and colicky pains to a tubal enlargement which, in the absence of the pains, would never have been detected, for the reason that the patient would not have consulted her physician, the tube emptying itself in the normal order of events without the assistance of electricity. A puzzling question, further, and one which no one can answer, is, Why should electricity kill an ovum in one case and not in another? Much as I have used the agent, I admit my inability to reply; but then many electrical phenomena and properties are as much a puzzle to me to-day as they were

six to eight years ago when I first resorted to the use of electricity as an adjuvant in gynecological therapeusis.

To my mind, having granted the purely inferential nature of the diagnosis in this case, its chief value is the fact that, notwithstanding the rational and physical history of ectopic gestation, the patient was spared, as the outcome proves, an unnecessary abdominal section. Dr. Cole would have been justified in operating, for he was face to face with an instance of ectopic gestation in the pre-rupture stage, as far as such can be certified short of handling the tube per abdominem. The case, if it do no more, should serve as a warning to those who are contending that abdominal section is the only justifiable treatment of early ectopic gestation, even though there exist no symptom suggestive of impending rupture. As surgeons and physicians we must ever weigh the risk to which we subject our patients, and where an alternative method, carrying with it less immediate and remote risk, offers, it is this method which should be elected. To prove this position as regards electricity would only result in my reiterating opinions often recorded before. Even though I cannot, if I would, dogmatize about the case I saw with Dr. Cole, I am satisfied that the wise, conservative, and justifiable course was pursued; and the opinion which I gave him is still the one I would give another in an instance of early ectopic gestation unassociated with evidence of present or of impending rupture. The patient, however, should ever be under constant and competent watch, so that, in case of intraperitoneal rupture, the abdomen may be opened without delay. In the event of rupture occurring, the conclusion that galvanism (the only current I would admit at all) was the causal factor is not irresistible in view of the fact that spontaneous rupture from the sixth to the twelfth week is the rule in the absence of all treatment. When the time comes for calm, dispassionate review of the treatment of early ectopic gestation, there is little question but that some of the ardent advocates of electricity will be obliged to modify their views, and the same holds. true of the gentlemen who from equally honest conviction are urging resort to the knife.

#### EXTRA-UTERINE PREGNANCY.1

BY

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My object in bringing the subject of extra-uterine pregnancy before the Society is that by its discussion we may be the better able to make a diagnosis, if we should be so fortunate—or unfortunate—as to be called upon to officiate in a case of this character.

From the nature of things, the majority of cases must and will fall into the hands of the general practitioner, who should be well acquainted with all the points of diagnosis, so that relief may be afforded in due season.

But what are these points of diagnosis? Is there any definite or particular set of symptoms by which we can tell during the first few months, or any time before quickening, that an extra-uterine pregnancy actually exists, or by which even normal pregnancy can always be determined upon without any question?

The presumptive or probable evidence of a pregnancy may or may not be the result of gestation. The suppression of the catamenia is only a presumptive sign; they may be suppressed or they may continue during the whole of a pregnancy, or they may become arrested in those newly married, and remain so for several months, without the existence of gestation.

The literature of the past as well as that of the present agrees that the diagnosis of an extra-uterine pregnancy is always difficult and often impossible, and can only be made by a careful study of all the signs and symptoms in each particular! case. No one of the many disturbances it occasions, or the changes it causes, is of very great weight when standing alone; occurring together, or several appearing in succession,

<sup>&</sup>lt;sup>1</sup> Read before the Washington Obstetrical and Gynecological Society, December 19th, 1890.

they increase very much in value. A small number of cases present no well-marked symptoms, except those of normal pregnancy, and go on to full term; labor sets in, and only then is the true state of affairs discovered.

In others the fact of an extra-uterine pregnancy is first announced by symptoms which speedily overwhelm the patient. Pains come on, with rupture of the cyst, followed by hemorrhage into the abdominal cavity, causing shock, and sometimes even the death of the patient before the practitioner is aware of the serious character of the case; or attacks of severe abdominal or pelvic pain may come on, with symptoms of collapse, and the patient be found almost pulseless; she thinks she is about to die, and the practitioner is at a loss to satisfactorily account for her condition, unless acquainted with the course of this form of gestation.

From this collapsed condition she may slowly rally, to suffer again in a short time from similar attacks. Such attacks have been attributed to contraction of the walls of the cyst, and I have no doubt that they depend upon a partial rupture of the cyst, or of the blood vessels on its walls, which would necessarily be accompanied by hemorrhage. The great practical fact is that a succession of these paroxysms may occur before the final and fatal rupture, which they most surely foretell; and that in a patient presumably pregnant, having had more than one such attack as this, and in whom a vaginal examination will show some changes in the uterus, as well as the presence of a tumor, there could scarcely be a doubt of the existence of an extra uterine pregnancy.

In extra-uterine pregnancy the abdomen is enlarged, as well as the uterus itself, which is found in the early months to be enlarged about in proportion to the duration of pregnancy; the same phenomena are found to occur in the breasts as in regular uterine pregnancy; the reflex signs of this condition are usually present, such as depraved and changed appetite, nausea, vomiting, and salivation; and there may be amenorrhea as in ordinary pregnancy. But there is not the normal complete arrest of menstruation during the period corresponding to pregnancy; the menses may be regular in both time and quantity, but much more frequently the flow is irregular, and it may be excessive, and even continuous.

In many instances recurring gushes of blood have been found to take place, which, with the pelvic pain often found to accompany the bleeding, cause the patient as well as the practitioner to think that an abortion is about to take place. There would be no further doubt in their minds upon this point should the decidua happen to pass en masse; it would be taken, as it has been many a time, for a mole or false conception, and would be looked upon as the termination of a miscarriage.

Dr. Bedford, in speaking of the difficulties encountered at times in differentiating pregnancy from uterine or abdominal diseases, tells in most graphic language of a case in which it was decided, after consultation, that the patient was suffering with dropsy and that paracentesis should be performed; that a trocar was plunged into the abdomen of the confiding woman; that no fluid was reached, but that an autopsy a few days later revealed the astounding fact that the instrument, instead of passing into what was supposed to be an accumulation of fluid, was thrust into the very heart of a living fetus.

He also tells of a case in which character and life were sacrificed by an error of judgment on the part of those whose counsel was invoked. The unfortunate patient was the daughter of an English clergyman. Shortly after her eighteenth birthday it was noticed that her abdomen and breasts were enlarging, her face became pale and careworn, and her appetite capricious, which caused the rumor to be spread that she was pregnant. Medical men were called, who, without a due appreciation of their responsibility, rashly pronounced an opinion which consigned to an early grave a pure and lovely woman, and broke the very heart-strings of a devoted father. Dr. Bedford was called to their temporary home in New Jersey to make an autopsy, which brought to light a large fibrous tumor occupying the cavity of the uterus, which the father seized as soon as it was removed from the womb, and declared his intention of returning with it to England to confound the traducers of his child.

An extra-uterine pregnancy may be mistaken, before the death of the child, for displacement of the normally pregnant uterus during the early months of pregnancy, complicated with

fibro-myoma or cystic disease of the uterus, and more rarely pregnancy of one half of a double uterus, as was found and diagnosed by Mr. Tait in a case he saw with Mr. Ross, of Wakefield. Other conditions with which it may be confused are pelvic hematocele, ovarian tumor, cancer, fibro-cystic diseases of the uterus, and hydatids of the uterus.

Dr. Koch, of Heiligenheil, reports the case of a strong, healthy woman, married nine years, the mother of four children, and then living apart from her husband, in whom the menses ceased after weaning the last child. Her abdomen enlarged as if she were again pregnant, and after three months, during which time she was constantly upbraided by her husband in consequence of her condition, pains came on and hydatids about the size of two fists were extruded.

The invariable condition of the uterus in extra-uterine pregnancy, whether before or after the death of the fetus, is that it is intimately associated with a tumor, generally in front of it and movable to a limited extent; it is always enlarged before the death of the child, and frequently remains so even after its death. The abdominal distention is greater than should correspond to the time the woman is supposed to be pregnant, while the uterus is not as much enlarged as it should be; the uterus, too, has a doughy feeling of resistance, like a soft tumor, when pressed toward the upper floor of the vagina. There is usually great tenderness of one or both iliac regions, so great at times as to prevent a thorough examination. Great pain at some point of this region may also be complained of, which frequently extends to the loin and down the thigh. Another important point is that the cervix is always quite open, easily admitting the first joint of the index finger.

Under such circumstances, if the fetal heart is audible the case is clear; if not, the character of the tumor must be taken carefully into account.

If the case is seen after the death of the child, the tumor will be soft, and possibly some part of the child may be made out by a rectal, vaginal, or suprapelvic examination; but, as a rule, it will be found that a diagnosis of an extra-uterine pregnancy will be more difficult after the death of the fetus, and that auscultatory signs are then of no use.

The usual termination of an extra-uterine pregnancy is

by rupture of the cyst, with hemorrhage, peritonitis, and death. There is at such times a sudden accession of pain, a feeling as if something had torn loose inside, metrorrhagia, symptoms of shock accompanied with great weakness, convulsions and delirium, and the abdomen becomes suddenly very severely painful, distended, and dull on percussion, with high abdominal heat, presenting a striking contrast to that of the rest of the body. When, however, a fetus dies before rupture of the sac, it may undergo mummification. An abortion cannot take place; the child may die prematurely and a suppurative inflammation be set up in the cyst by which it is enclosed, and the patient may die either from general peritonitis or from profuse suppuration; or the gestation may go on to full term, thus completing the physiological life of the placenta. In the latter instance, the placenta having lived the full limit of its physiological life, labor sets in, the decidua is expelled, and the child dies during the expulsive efforts of the false labor, which, so far as the child is concerned, is nothing more or less than a slow asphyxia.

In favorable cases, even after rupture of the sac and where suppuration has occurred, an abscess may be found to point and break through the abdominal wall or into the vagina or rectum.

The following is a case of this character, and is the only one of which I have any personal knowledge:

Case.—Mrs. B., an army officer's wife, married at 18, became pregnant for the twenty-fourth time when 38 years of age. She had given birth to but one live-born child, which lived but a few months, had miscarried twenty-two times, and had now missed her sickness for the twenty-fourth time. At about the end of the third month she began having abdominal pains, intermitting in character and gradually becoming more severe and frequent. Supposing she was about to abort again, her family physician was sent for, who, after making a vaginal examination, declared her to be not in labor, and, prescribing an opiate, left her for the day. After this there were pains in the breasts, colic, and occasional vomiting; micturition was painful but free. She suffered nearly constantly from pain in the lower part of the abdomen and in the right hip, thigh, and knee, and resorted to the opium for relief. Two

weeks later, the pains having returned with greater severity and a discharge occurring from the vagina, bloody in character and filled with shreddy material, the doctor was again sent for, and now declared that a miscarriage had taken place and that the fetus had probably been lost while at stool, that the uterus was entirely empty, and that if she would remain quietly in bed for a few days she would be all right again. She remained in bed, but the pains continued for several weeks and were only relieved by large and repeated doses of opium. While in bed she discovered an enlargement in her abdomen, on the right side and about half-way between the umbilicus and the crest of the ilium, which, becoming exceedingly painful and tender to the touch, was relieved by the application of hot poultices, which were continued at intervals for several weeks, when she again took her place in her family, but found herself quite an invalid, being compelled to lie down several times a day. The enlargement in the abdomen still continued, but gave her no particular trouble until the end of the seventh month, when she was taken with what was supposed to be intermittent fever, and with a return of pain in the enlargement in her side, which had never as yet received a name. Poultices were again applied, and, after several days of constant poulticing, it was observed that there was a soft and inflamed spot over the enlargement, which finally broke, discharging several pints of offensive material, which afforded her considerable relief. Two days later, on removing the poultice, a peculiar something was found protruding through the fistulous opening, which the husband with hairpin and button-hook succeeded in removing, and to his astonishment found it to be a mummified fetus about four inches long, which he saved and presented to his family physician, who an hour or two later made his regular daily visit. No effort was made to remove the after-birth, and no treatment given other than poulticing and quinine. At the end of six weeks, the fever and discharge still continuing and a cough coming on, Mrs. B. was removed to New York City, where it was thought best, because of her anemic condition, that no surgical interference should be attempted; but, proper treatment being instituted, a sea voyage was recommended and taken, being extended to Europe, where several months were spent. On

her return to New York, her health being partially restored, and having acquired the opium habit, she did not apply for treatment. Seven years later, when she came under my care, there was still a discharge from the fistulous opening, which she would not allow to heal, claiming that her cough, which had never left her, was much less severe when the fistula was discharging. She died about two years ago from an overdose of morphia.

Dr. Harper' reports a case in which there was a putrid discharge from the rectum, in which was found a fetal temporal bone; that six months later the abdomen was opened and the remaining fetal bones removed without difficulty; that for the next twenty days fecal matter was discharged through the abdominal opening, and that the patient finally recovered.

Dr. Moore<sup>2</sup> reports a case in which a partially decomposed fetus was found protruding from the anus, followed two days later by the discharge per anum of several pieces of placenta and numerous blood clots, with recovery of patient.

Dr. Peck<sup>3</sup> reports a case in which he broke the cord while delivering a fetus through the anus, and that no after-birth ever came away.

Dr. Mathiason reports a case in which he delivered, through an opening he made in the wall of the vagina, a living child, at full term, weighing eight and one-half pounds. In delivering the placenta he used a sponge saturated with a strong solution of perchloride of iron, which he pressed against the maternal parts and thus pushed off the attached placenta.

The fact is now quite well established that a woman may become impregnated while carrying an extra-uterine fetns; that is, that she may have simultaneously an intra- and an extra-uterine pregnancy.

Dr. Yardley<sup>5</sup> reports a case of this kind, in which he attended a woman in her confinement with a still-born child, and left a full-sized child of a former pregnancy in the

<sup>&</sup>lt;sup>1</sup> Trans. Med. Soc. Va., 1873.

<sup>&</sup>lt;sup>2</sup> Pacific Med. and Surg. Journal, 1874.

<sup>&</sup>lt;sup>3</sup> Boston Med. and Surg. Journal.

<sup>&</sup>lt;sup>4</sup> Trans. Obst. Soc. London, 1884.

<sup>&</sup>lt;sup>5</sup> Am. Journ. Med. Sci., 1846.

abdominal cavity; that the head of the extra-uterine fetus caused him considerable trouble by slipping into the cavity of the pelvis, thus obstructing the passage of the last-formed child; that by constantly pushing up the head of the extra-uterine fetus the other child was delivered; that he was called ten years later to this same woman, and removed from her rectum portions of a fetus; that he continued for three months to remove from her rectum such portions of the fetus as could be extracted without injuring her, and that she perfectly recovered.

Dr. Whitney' also reports a case of this kind in which he claims that the child lived for four years in its mother's abdomen; that just after her second confinement she observed a tumor in her abdomen, in which there was motion; that she became pregnant again, and in eighteen months gave birth to her third child; that the tumor continued and had grown a little; that there was still motion in it, more distinct when she had pain, which she had about once a month; that he saw this patient eighteen months after her last confinement, and that the motion in the tumor had ceased for the first time only a few days before; that the tumor now became flabby and lost its natural feel; that he made an incision through the linea alba, through which he removed a monstrosity with bair five inches long.

The question as to the cause of extra-uterine pregnancy has not yet been definitely settled.

Astrue claims that it is much more frequent in widows and unmarried women, who, from fright or from fear of being caught in the act, cause *error loci* of the germ; but he cannot be correct in his reasoning, for extra-uterine fetation does occur in married women, who have a right to be pregnant, whether they are anxious to become mothers or not, and are not frightened at but enjoy the embraces of their husbands.

Virehow claims that it is frequently accompanied by adhesions of the internal genital organs, caused by false membrane, and attributes to their presence an important influence in the production of such pregnancies—virtually, that extra-uterine pregnancy is due to tubal occlusion.

Tait and others claim that it is caused by a desquamative <sup>1</sup> Am. Journ. Med. Sci., 1846.

salpingitis, which strips the tube of ciliated epithelium, laying bare its subjacent adenoid layer, bringing the tubes to a condition similar to that of the interior of the uterus, which not only robs the ovum of its means of support but of its transportation to the uterus.

In the treatment of a woman known to be suffering with an extra-uterine pregnancy, and where the practitioner does not wish to play executioner, there is but little to do but wait. The woman should be put on low diet and restrained in her movements, and in this way she may be carried up to or beyond the seventh month, and then, by proper operative interference, she and the child may both be saved.

When the life of the child is not taken into account, or where from fear of premature rupture of the sac it is not desirable to wait, several plans of treatment have been suggested, which have each many supporters.

The hypodermatic injection of a solution of morphia or a solution of atropia into the sac, and the transmission of the faradic or galvanic current through the mass for several days in succession, have been proven to be effective methods of destroying the life of the fetus.

If either of these plans should be adopted, the child would be left in its mother's abdomen and we would have to wait for the slow process of absorption; or suppuration might take place, which would mean many months, perhaps years, of invalidism for the unfortunate patient.

Would it not be better under such circumstances, since such rapid strides have been made in abdominal surgery, for laparatomy to be performed instead of resorting to either of these methods?

In those cases in which a diagnosis has not been made until there is rupture of the cyst, treatment should be directed to the prevention of hemorrhage and removal of shock, and laparatomy should be resorted to as soon thereafter as possible.

# A CASE OF PUERPERAL PERITONITIS TREATED BY AMPUTATION OF THE UTERUS; RECOVERY.

BA

A. LAPTHORN SMITH, M.D., Gynecologist to the Montreal Dispensary.

I was called, late on the night of the 9th of October, 1891, to see Mrs. O., who had just been delivered by a midwife, but who was in an alarming state of exhaustion. She was 35 years of age, the mother of one other child, and had had very long and painful labors each time. I found her almost pulseless, unable to speak, and deathly pale. I gave her some brandy and water and a drachm of fluid extract of ergot, and at the end of an hour she had rallied sufficiently to allow the midwife to set about the removal of the placenta. This she was unable to accomplish. I also tried, first by squeezing on the fundus and drawing on the cord, and, when that failed, by introducing my hand into the vagina and grasping the placenta with my fingers. It was quite firmly attached, and the patient complained very bitterly of the pain which every attempt at its removal caused her. If she could have stood an anesthetic, I would have given her one and introduced my hand, with proper precautions, into the uterus, so as to detach it; but by this time the patient had become so weak again that I feared she might die then and there. I therefore decided to adopt the procedure recommended by Winckel and practised at the Munich clinic, viz., to wait twelve hours, and, if the placenta was not spontaneously expelled by that time, to administer an anesthetic and detach it with my hand. I left an ounce of ergot, with directions to give her a teaspoonful every four hours, for the double purpose of preventing hemorrhage and expelling the after-birth. I gave her a hot yaginal injection of plain water, and cleaned her up, removing all soiled linen from her and her bed. I told the midwife to allow her to rest, so as to gain a little strength for what I had to do when I returned. As soon as I left the house, however, the midwife set to work at the placenta, and by 3 A.M. she had removed what she thought was the whole of it, and which she showed me in the chamber when I returned before 9 A.M. I did not think that it was all there, and consequently introduced my hand into the vagina and with great difficulty removed several handfuls more from the uterus, which was still tightly closed. The patient was too weak to stand an anesthetic, and the introduction of my hand caused her intense pain, so that I could not get my fingers up to the fundus. I then gave her an intra-uterine douche of permanganate solution until it returned clear, and these injections were repeated twice a day. She rallied very well for the next thirty-six hours, but about forty hours after delivery had a chill followed by a temperature of 104°. About forty-eight hours after delivery I was suddenly called to her, and found her with her knees drawn up, abdomen distended, face pale and anxious, pulse thready and 140; she was crying with pain all over the abdomen. I at once gave her a good dose of Rochelle salt, applied turpentine stupes to the abdomen, and within an hour she was quite free from pain. I felt sure that I had a case of peritonitis on hand, but to what was it due? If to a suppurating appendix or a ruptured pus tube, it was plainly my duty to open the abdomen and remove it; if to a septic uterus, to clean it out with the curette. I inclined towards one of the former causes, on account of the patient having had a high fever and intense pain in the right iliac region for five days before the confinement; while if it were due to a septic uterus it must have been infected some days before her delivery, puerperal peritonitis not generally coming on before six to nine days after delivery.

The next question for me to decide was: Should I first curette the uterus or explore the abdomen?

I remembered my experience in a former case, which I lost, and in which curetting had seemed to render the patient much worse, apparently having opened fresh avenues for the admission of germs into the system. On the other hand, what would be the use of curetting, if an abscess had broken into the peritoneal cavity? If the patient could stand the two operations, it would be better to curette first, and, if this was not followed by improvement, to perform an exploratory abdominal section.

Next morning, the 15th, she was much worse, so I placed the matter fairly before the patient and her family, and gave them until 3 P.M. to decide whether I should open the abdomen and remove whatever I found to be the cause of the trouble. At 3 P.M. I returned with Dr. Bruere, who also considered the patient's condition critical, and received permission to do whatever I thought best to save the patient's life. I then sent for Dr. Springle, who ably assisted me, under great difficulties, to perform the operation, while Dr. Bruere undertook the very anxious task of administering the anesthetic. An hour was spent in finding a clergyman and administering the rites of the church, and it was not until a quarter past 4 that the anesthetic was begun, and about 4:30 the incision was made. It was a very dark, rainy day, the light was very poor, the room cramped, and the last sutures had to be inserted by the aid of the feeble light of a coal-oil lamp. Fortunately the distention had been somewhat relieved by the Rochelle salt administered the night before and re-peated that morning, so that the intestines gave us only slight trouble. We first inspected the peritoneum and found it free from lymph or pus, though the intestines were somewhat injected. We then sought for an inflamed appendix, with negative results. The uterns and its appendages were very congested, but the latter contained no abscess; neither were there any adhesions anywhere.

I now felt certain that the seat of the trouble was in the uterus, and during the next sixty seconds I had to decide whether I would sew her up and leave her to her fate, or whether I would give her a chance for her life by removing the septic organ. I decided upon the latter course, and lifting out the fundus with a volsella, and placing the wire of Koeberle's serre-nœud around the uterus about the level of the internal os, taking care to exclude the bladder and intestines and to include the appendages, we tightened up the wire and placed two pins through the uterus above it. Dr. Springle made a few cuts in the uterus, and, as they bled, I tightened the wire several times until all bleeding was controlled, when I removed the uterus, leaving a stump about the size of a small apple. We then poured two gallons of hot water into the peritoneal cavity, paddled it about for a few

moments, and then siphoned it out. The peritoneum was then dried and the stump drawn down to the lower angle of the wound, which latter was then brought together with silkworm-gut sutures placed close together, and which I passed from within outward by the sense of touch, as I could not see. I did not sew the stump peritoneum to the parietal peritoneum, believing, as I do, that adhesions take place within a short time by simple contact. The stump was not cauterized, but simply buried in boracic acid and covered with boracic gauze. No drainage tube was used. The operation consumed less than an hour, and the patient was returned to bed no worse than before the operation. I left orders to relieve pain, if it should come on, by the same means as before—namely, turpentine stupes and salines. Oozing came on soon after, but was easily arrested by a few turns of the screw, which I instructed the attendants how to use. She had only one attack of pain, occurring about daybreak next morning, which was relieved, as before, in a few minutes, and she has been free from pain since. There was a slight tendency to vomiting next day, for which I ordered a grain of calomel every hour until the bowels were moved, which they were towards night. The serre-nœud had to be tightened every six hours, until on the third day the end of the screw was reached and I was obliged to substitute a longer instrument, known as Smith's, armed with a stout linen cord which had been disinfected by boiling. As this has happened in every case of hysterectomy, I shall in future discard Koeberle's constrictor and use Smith's altogether. This was tightened regularly night and morning until the fourteenth day, when the stump came away. The bowels were moved every day with one-grain doses of calomel combined with teaspoonful doses of Rochelle salt, repeated every hour for two or three and sometimes four hours. On one occasion they had to be repeated six or eight times before they moved, the result being a mild salivation which required a month wash of chlorate of potash. For the first week I gave a grain of quinine and a grain of digitalis three times a day, as the pulse was so weak and fast, but after that it improved so much that I left it off. The temperature, which had been 105° before the operation, fell to 103° next day, to 101° the day after, and on the fourth day

reached normal, where it has remained ever since. About the end of the first week she began to have a troublesome cough, for which I gave her the compound syrup of codeine of the French Pharmacopeia. This is an elegant preparation and proved very effective. As I have read of a good many cases in which death followed laparatomy owing to bursting open of the wound from coughing, vomiting, etc., I have not removed the stitches yet, although it is more than three weeks since the operation, and I shall leave them for another week, as they are causing no trouble. The patient has a good appetite, eating steaks and chops twice a day, and she is beginning to sit up in bed. She will be out of bed at the end of the fourth week. The hole where the stump was, measures of the fourth week. The hole where the stump was, measures to-day one inch in diameter and one inch in width, and is rapidly filling up. Owing to the unpleasant odor from the stump, I tried several times to cut some of it away, but it bled every time until the twelfth day, when it suddenly turned black. No narcotics were given from beginning to end of the treatment, and to this I attribute her freedom from pain. One of the most valuable lessons Mr. Tait has from pain. One of the most valuable lessons Mr. Tait has taught us is that pain after abdominal section is nearly always due to flatulence, and that the administration of morphia only increases this. The breasts were very full, but quickly dried up under inunctions of iodide-of-lead ointment. She was able to pass her water herself from the very first day. Her baby is thriving well on the bottle. A neighbor and a young sister, who knew nothing whatever about nursing, made excellent nurses, doing neither more nor less than I told them to do. They both remarked this morning that the patient was looking very much better now than she did before her was looking very much better now than she did before her confinement

On examining the uterus twenty-four hours after removal, it was found to contain remains of placenta which were so firmly adherent that they would break sooner than peel off. The inside of the uterus appeared of a dark purple color, while a semi-purulent liquid could be squeezed out of the sinuses. The walls of the uterus were soft and friable.

From the gratifying result in this case under the most unfavorable circumstances, I feel confident that this method of treating apparently hopeless cases of puerperal septicemia has

a good future before it, but on the one condition that it be not delayed until the woman is actually dying. Some may say that this was a very radical treatment, but I maintain that it was fully justified by the condition and the disease, which is one of the most fatal. In England and Wales alone there died from puerperal septicemia, in spite of every other treatment, no less than 1,087 women last year, so that a great many thousands must have died throughout the world. Would these women not have gladly sacrificed their wombs, if they could thereby have saved their lives? Abdominal section for puerperal septicemia has hitherto had a bad record in Montreal, as elsewhere. The reason seems very clear to me, viz., that it is of little use to open the abdomen and wash out, and then to sew up the woman, without having removed the whole cause of the trouble, namely, the septic uterus, whose walls are saturated with infection, and which no amount of curetting or washing could possibly disinfect. If, when no other cause is found, the removal of the uterus be added to the exploratory incision, I believe the operation will nearly always be followed by success.

Others may object that this woman, although alive and well, has been mutilated. But perhaps the very ones who will say this have themselves mutilated, by the removal of the appendages, many women who were in no danger of their life, but merely suffered from menstrual pain. The operation which I performed is actually a safer one than simple removal of the normal ovaries, for I did not leave in the abdomen either the cut ends of arteries to furnish secondary and concealed hemorrhage, nor ligatures to give rise to abscesses.

My cut vessels and ligatures were all outside of the peritoneal cavity where they could do no harm, being seen and under constant supervision and control. As for the prospects afterwards, I can say that two of my patients with fibroids who have had their uterus and appendages removed by abdominal section are now in good health, such as they never enjoyed before or since puberty. As for this poor woman, she abhorred and dreaded pregnancy. She is poor, and the two children she has are as many as she can care for. She will now be able to perform her duties to her husband without the dread with which she has fulfilled them heretofore.

From my very limited experience I would draw the following conclusions:

- 1. The temperature should be taken every day after every confinement, and on the slightest rise vaginal douches of permanganate solution should be commenced.
- 2. If the temperature continues to rise, the douches should be made intra-uterine.
- 3. If there is no improvement at the end of twenty-four hours, scrape out the uterus with the finger or with the curette, apply strong tincture of iodine, wash out the uterus, and drain with iodoform gauze.
- 4. If the case proceeds from bad to worse, and peritonitis sets in, perform an exploratory incision, and, if no other evident cause can be found, remove the uterus.

## THE TREATMENT OF ABORTION.1

BY

C. L. BONIFIELD, M.D.

It is not my intention to present here a résumé of the literature of this subject, but rather to give my personal views upon it, which, while they will comprise little that is original, will, I hope, be of sufficient interest to elicit a discussion that will be valuable.

The treatment of abortion includes its prevention, when this is possible. Whether or not prevention is possible is the first question to be decided in practice, and it is not always an easy one. The amount of hemorrhage, the severity and duration of the pain, and the degree of dilatation of the cervix are the elements to be taken into consideration in forming an opinion. If any of these symptoms are well marked it is not safe to promise its arrest, and if all are present the final expulsion of the ovum may be confidently predicted.

<sup>&</sup>lt;sup>1</sup> Read before the Obstetrical Society of Cincinnati, May 14th, 1891.

But, unless the hemorrhage is profuse or dilatation quite noticeable, an earnest effort should be made to stop the process. The indication is to secure rest—rest of the body, rest of the mind, rest of the nervous system. This is secured by placing the patient in bed, in a cool room, and at once bringing her under the influence of an opiate. This can be done most rapidly and surely by a hypodermic injection of morphine, and the effect may be continued by opium, by the mouth or rectum, combined, if the patient be nervous, with chloral or bromide. When examining, the physician should ascertain if there be retroversion or flexion, and, if so, correct it at once by placing the patient in the genu-pectoral position and raising the body of the uterus with two fingers in the vagina. This maneuvre, according to Lusk, is often sufficient in itself to arrest the abortion. The patient should, of course, not be allowed to lie on her back or assume an upright position for a number of days.

Viburnum prunifolium is strongly recommended as a prophylactic by Jenks and others; and McKee, of this Society, reports a quite remarkable case where abortion was apparently twice prevented by the use of dioviburnia, of which probably the most active ingredients are viburnum and dioscoria villosa. I have never used either of these remedies, believing that opium accomplishes all that can be expected from drugs. The opium should be continued till the symptoms subside, or progress so far as to render abortion inevitable. If the symptoms subside the patient should be kept in bed for several days before being allowed to gradually resume her habits of life, and should return to it upon the recurrence of the slightest symptom, and at the time when she would menstruate were she not pregnant.

When the abortion is recognized as being inevitable, the method of procedure depends on the condition of the cervix and the amount of hemorrhage. If the cervix be dilated and the hemorrhage severe, the ovum should be detached and delivered at once. If the cervix is not dilated and the hemorrhage trifling—as it usually is if the sac has not ruptured—an expectant course is doubtless the best one, though the patient must not be left long at a time by her attendant, as the sac may at any moment rupture and the hemorrhage become alarming.

When the hemorrhage is profuse and the cervix not suffi-ciently dilated to allow of an immediate delivery, the vagina should be thoroughly tamponed. This controls the hemorrhage and at the same time usually stimulates uterine contractions. The vagina is best tamponed by packing it tightly with small, firm balls of absorbent cotton previously immersed in an antiseptic solution. With the aid of Sims' speculum the cervix is first carefully surrounded with small balls, then a second layer covers it, and upon this are packed balls of a larger size until the vagina is filled. To insure dilatation of the cervix while the tampon is in place, a roll of iodoform gauze may be crowded into the cervical canal with dressing forceps and sound before packing the vagina. If a Sims' speculum is not at hand, one can tampon the vagina satisfactorily by using two fingers as a retractor of the perineum, and in a case of emergency strips of old muslin may be used instead of the cotton. The tampon may be left undisturbed for from six to twelve hours, and it frequently happens that upon its removal the ovum will be found in the vagina. If, on the contrary, the ovum still remains undetached, the hemorrhage continues, and the cervix is not yet dilated sufficiently to allow delivery, the vagina must be tamponed again after having been douched with a warm antiseptic solution. The cotton may be left again for six hours. When it is removed, if the cervix is still not sufficiently dilated-which will rarely happen, I believe, if the cervical canal has been well filled with gauze—it can be replaced by still a third, which can remain the same length of time; but when it is removed it is better to make persistent efforts at dilatation with the finger, and, failing with that, resort to Goodell's dilator, than to again fill the vagina with cotton, for prolonged and repeated tamponing is not without danger. I believe it is better practice to dilate with an instrument than with a tent as most text books recommend. It is more aseptic and more rapid. The hemorrhage that takes place while dilatation is being effected is not profuse enough to be alarming in so short a time. Lusk, Parvin, and others recommend the administration of ergot while the vagina is tamponed. I doubt the wisdom of this advice and never follow it. It is admitted that ergot acts most powerfully on the

lower portions of the uterus and thus imprisons rather than expels its contents. But they claim that the tampon effectually prevents this. Just how the tampon, as usually employed, does this I am unable to see. It certainly causes dilatation mainly by reflexly stimulating the uterus to contract; and do these contractions prevent ergot from exercising its predilection for the lower segment? Is not the reason that this effect of ergot is less manifest when it is administered during abortion than when administered during labor at term, that the uterus responds less actively to ergot during the earlier months of pregnancy than during the later? Uterine contractions induced by ergot are always of a constant, unremitting character that is not conducive to the detachment of the ovum in its entirety. The exceptions to the rule, Give ergot only when the uterus is empty, are few indeed.

Before the fourth month every effort should be made to secure the expulsion of the ovum entire; for if the sac ruptures and the fetus escapes, portions of chorion are almost sure to remain behind. When this occurs, shall the remnants be removed at once, or shall they be left until septic symptoms arise or Nature manages to expel them! I am a firm believer in the practice, so ardently and persistently championed by Mundé, of removing them at once. In no other condition is it more true than in sepsis that prophylaxis is the best treatment. Why we should be advised to wait until symptoms of sepsis appear, before an effort is made to prevent it, is something I cannot understand. Aside from the danger of sepsis, I think no one will deny that retained portions of the placenta seriously delay involution and predispose the uterine mucous membrane to chronic inflammation (fungoid endometritis). Then why, if it can be safely done, should not the uterus be thoroughly cleaned at once? I believe it can be done with perfect safety, providing it is done aseptically with an ordinary degree of skill. I believe that the dread of interfering in these cases arises principally from two causes. The first is that many obstetricians do not yet take sufficient care to render their fingers and instruments aseptic. The second is the high mortality of criminal abortion. When we reflect that in criminal abortion the uterus is invaded, in the most violent and unskilful manner, with instruments which are far from being surgically clean, and the membranes are ruptured at the beginning, and these cases are afterwards sadly mismanaged or neglected, we see that they make no basis on which we can form an opinion as to the danger of introducing instruments into the aborting uterus.

If the patient is not fleshy, and has lax abdominal walls which admit of the uterus being so depressed by a hand on the abdomen that its cavity can be thoroughly explored with the index finger, this is the best of all instruments for removing the fragments, and is the one that should be used. In a large proportion of cases the condition of affairs is such that it is necessary to employ some other instrument, and a number have been invented for the purpose. The first time I had occasion to use such an instrument I very naturally employed the one recommended by Dr. Reamy, and it acted then, and has in a number of cases in which I have since used it, so satisfactorily that I have never cared to experiment with another. This instrument closely resembles the ordinary stone forceps minus its teeth. The method of using it is as follows: The patient is brought with her hips to the edge of the bed, and her legs are flexed and held by the nurse. A Sims' speculum is introduced, and the anterior lip of the cervix is seized with a tenaculum forceps. The placenta forceps is introduced closed into the uterine cavity, the blades slightly open and their edges placed against the uterine wall and closed. If the operator feels that something has been grasped, he withdraws the forceps and removes the fragment from its jaws. This he repeats until satisfied that no remnants are left in the cavity.

The three points of merit in this instrument are its simplicity, safety, and efficiency. Its simplicity is self-evident, with ordinary care no will injure the uterus with it, and I believe that one trial will convince any one of its efficiency.

When the uterus has been emptied it should be washed out with a warm solution of creolin, which I regard as the most satisfactory and reliable non-toxic antiseptic for the obstetrician's use. This is most conveniently done by simply straightening the cervical canal by gentle traction on the anterior lip

with the tenaculum forceps. No tube or Bozeman catheter is needed to secure the ready outflow of the fluid.

The after-treatment should be the same as though the woman had been delivered at full term. She should remain in bed two weeks, and to stimulate the uterus in its work of involution—which it often appears loath to begin when called upon to do so before it has reached the limit of its physiological hypertrophy—quinine and ergot may be given.

280 West Fourth St.

## OTORRHEA AND ITS CONSEQUENCES.1

BΥ

## GEORGE BYRD HARRISON, M.D., Washington, D. C.

At our stated meeting, November 16th, 1888, I presented to you a case of "fatal apoplexy before puberty." To-night I wish to offer the notes of another fatal case, differing widely as to symptomatology, but affording at the autopsy anatomical appearances so nearly identical with the former one as to make the two, studied together, not only very interesting, but, as it has seemed to me, exceedingly instructive as well. In order that you may "look on this picture and on this," I shall trespass on your patience by recapitulating a few of the salient features in the history, symptoms, and necropsy of the former case.

Case I.<sup>2</sup>—A boy, 13 years of age, an inmate of the Washington City Orphan Asylum, a brunette of slight and rather delicate figure.

History.—It seems that this child, before entrance into this asylum, had had scarlet fever very severely, followed by otorrhea for which he had been treated. He had also been attended for chorea. But, after admission, what treatment he had received from the physicians of the institution had been

<sup>&</sup>lt;sup>1</sup> Read before the Washington Obstetrical and Gynecological Society, February 20th, 1891.

<sup>&</sup>lt;sup>2</sup> See this Journal, vol. xxiii., 1889, page 275.

for trivial disorders, easily relieved, no record of which had been kept.

Symptoms Preceding and During Last Illness.—On the 15th of October, 1888, his teacher, having been struck by his listlessness and general unlikeness to his normal self, called the attention of the acting superintendent to him. He was promptly removed to the infirmary of the institution and placed under the care of an experienced nurse, that his diet and habits might be duly regulated. At this time he complained of headache (more or less frontal), was more irritable than usual, capricious in appetite, and once or twice vomited his food. The approach of typhoid fever was feared, and he was watched and tended with exceptional care. . . . On Monday, the 22d, he seemed entirely well until about noon, when a fit of irritability seized him. He complained of his food, demanded ham and cabbage, and was only pacified by the promise-not, of course, to be kept-that he should have it next day. I paid a visit to the house that afternoon and examined him, was annoyed to find his temperature 101.5°, and ordered full doses of quinia and potassium bromide. Next day he seemed entirely himself until 4 o'clock, when he became violent and soon fell into a stupor, in which condition I found him an hour or two later. At this time he was unconscious, motionless, his pupils neither contracted nor dilated, nor deviating as to axis, the one from the other. Pulse full and compressible, about 68 to the minute. No unusual heat of the head exteriorly. . . . Saw him next morning with Dr. Lachlan Tyler, my associate in the institution. We found him less unconscious, perhaps, judging by ocular expression, but still unable to speak, or even protrude the tongue when told to do so. Pulse 76, temperature 100.8°; pupils slightly contracted, probably from opium. Had taken his nourishment at regular intervals from a tablespoon, but with difficulty. Next morning iodide of potassium substituted for bromides; purgative dose (calomel, sodium bicarbonate, and ipecae) ordered; hot mustard baths for feet. Purgation was free, with the aid of an enema; but from this time until Saturday morning, the 27th, he gradually grew worse, temperature and pulse rising, respiration becoming shallower and more frequent until death at 10 A.M.

Autopsy by Dr. Lachlan Tyler, 3 P.M., Doctors Hagner, Houstoun, and myself being present. The brain and meninges were found to be in a state of intense congestion, the grav matter infiltrated and darkened, here and there dots of extravasation, and in the subarachnoid space (especially posteriorly) an accumulation of sero-sanguinolent fluid, with clouding (almost to opacity) of the membrane itself as the base of the brain was approached. The thorax was then opened, but nothing abnormal detected except hypostatic infiltrations of the dependent portions of the lungs. The liver appeared to be the seat of no structural change. The glands of Peyer in the neighborhood of the ileo-cecal valve were reddened, elevated, and surrounded by arborescent congestion of the adjacent mucous membrane. Spleen and mesenteric glands were not examined (by reason of urgent demands upon the time of all of us).

Case II.—The second case is that of J. T., aged 10, an inmate of Washington City Orphan Asylum. Father intemperate. Mother died of phthisis.

History.—About Saturday, the 14th of June last, he presented symptoms of listlessness, languor, etc., and was removed from the school room to the infirmary. His teacher had noticed deafness for some time, but made no report of it. His condition was so little alarming that I was not called to him until the 18th (Wednesday). At that time his tongue was furred, face much flushed, and he complained of occipital headache, constipation, and of pain referred to back of arms. Ordered mercurial cathartic with hyoscyamus and ipecae, mustard foot-bath, counter-irritation, and finally vesication of nape of neck (treatment was merely symptomatic throughout).

On the 20th (Friday) he complained of much pain referred to region of spleen, for which iodine ointment was used. Later the lower spine was attacked; for this veratrine ointment was employed. An antiseptic wash was used for mouth and ears, as a slight odor was perceptible; and Dr. William Holland Wilmer was called in to examine ears and eyes. He found in the right drumhead two perforations, one in membrana flaccida, the other in membrana vibrans, below the manubrium. From the latter was projecting a bead of pus. Foul odor to the discharge. The eyes were carefully exam-

ined. "There was no choked disc, but the nerve was a little redder than normal and the veins a trifle larger. The pupils were dilated (the left somewhat more than the right), and were sluggish."

From this time on there was no improvement, but a steady advance of all bad symptoms, with stupor, restlessness, and even violence. Death occurred on Tuesday morning, the 24th.

Autopsy by Dr. E. M. Schaeffer, June 24th, 1890, 3 p.m. Rigor mortis partial (temperature of room very high, body not on ice). Nutrition poor. Left pupil more dilated than right. Much post-mortem discoloration. About two ounces of clear serum in cavity of pericardium. Strong adhesions of right lung. Right lung; upper lobe congested, no deposit, middle lobe purulent infiltration, and substance nearly hepatized in places. Left lung; congested, no adhesions. Heart; some dark fluid blood and serum, solid elots in right ventricle, left ventricle nearly empty. Liver; some abnormal firmness and adherent to diaphragm. Stomach, intestines, and kidneys normal. Brain; much congestion of dura and pia mater. Vessels at vertex in pia mater much engorged. Turbid serum at base of brain and in cerebro-spinal cavities. Brain very large. Tegmen tympani imperforate but discolored. Medulla abnormally large; examination of section of same by Dr. Schaeffer showed "two or three irregular spots in the interior of the medulla, apparently produced by the extravasation of blood into the nerve bundles; numerous congested capillaries were seen in one portion of the section." Cause of death, meningitis.

I desire to call attention to the lack of similarity in symptoms of these two cases, yet I am compelled to conclude, from light now afforded, that death in both cases was due to the otorrhea. In the last-mentioned case there was no opening from middle ear to base of brain; yet the condition of that organ warrants the belief that its abnormal appearance was due to suppuration of middle ear. How did it reach the cerebrum? It will be observed from the report of Dr. Wilmer that he found two perforations; therefore they were spontaneous. The drumhead resisted the pressure of products of suppuration until its maximum resistance had been reached by pressure and erosion; but, before this end had been

reached, the cerebrum was invaded by one or more of three possible courses—as, through the sheath of the "acousticus" or the "facialis" to the meninges; through the dura mater; or by irruption of pus into the aqueduct of Fallopius—as the following authorities will explain:

"The course of acute purulent inflammation of the middle ear may therefore be said to tend to a greater or less destructive process in the nuccons lining of the cavity of the tympanum, and to rupture of the membrana tympani. The latter event is usually the first destructive result of the disease, and is very likely to give relief to pain. In some of the more violent cases pain may not only continue but increase after the rupture of the membrane. In such cases a well-grounded suspicion may be aroused that the disease has invaded parts deeper than the mucous lining of the drum cavity, and that it is likely that either the mastoid cells or the cranial cavity, or both, may have become affected."

"Toynbee found that the dura mater partook in the tympanic inflammation of typhus fever; which would seem to indicate that the tympanic disease shared largely in the fatal result." <sup>2</sup>

"Darolles has given an account of acute otitis media purulenta of the right side followed by facial paralysis on the tenth day; acute meningitis was caused in this case by irruption of the pus into the aqueduct of Fallopins. On the sixteenth day profuse sweating, involuntary discharges of urine and feces, paralysis of the left arm, dilated pupils, reacting sluggishly, thready pulse, temperature 40.6° C., were noted. Death occurred the same evening. Post-mortem examination revealed veins of the pia and dura mater greatly congested; copious purulent infiltration into the subarachnoid cellular tissue, confined chiefly to the base, and the convexity of right hemisphere; on the left side, only those portions of the brain overlying the sphenoid bone were involved. Small isolated purulent foci were found along the blood vessels of the convexity of the brain. The pia mater adhered at several points to the gray substance."

 $<sup>^{\</sup>scriptscriptstyle \rm I}$  Burnett's '' Treatise on the Ear,'' pp. 448, 449.

<sup>&</sup>lt;sup>2</sup> Ibid., p. 449.

<sup>&</sup>lt;sup>3</sup> Ibid., p. 450.

"Dr. Gähde has related a case of death resulting from an acute purulent inflammation of the middle ear. The patient was a young soldier under Dr. Gähde's observation in Magdeburg, Germany. The acute symptoms occurred on the 27th of August, but appeared to subside after a slight discharge had occurred from the affected ear—the right. By the 12th of September, however, the discharge from the ear and the pain having in the meantime subsided, the patient complained once more of pain in the ear, and his mastoid portion was found to be very sensitive to pressure. Notwithstanding rest in bed and free leeching behind the affected ear, cerebral symptoms set in, and on the second day the man died. The post-mortem examination revealed that the pus had accumulated in the tympanic cavity in large amount, but instead of bursting through the membrana tympani a second time, and thus saving the life of the patient, it had forced its way into the mastoid cavity and thence through a defective spot in its posterior wall, until the products of inflammation were brought in contact with the dura mater. This, of course, set up an irritation in the covering of the brain, and fatal meningitis soon followed." 1

"Kretschy publishes three cases of fatal purulent inflammation of the middle ear. . . In Case II. the autopsy showed at various spots an infiltration, partly serous and partly purulent, of the inner membranes of the brain, as well as on the convexity of the cerebrum, at the edge of the left cerebellar hemisphere, and at the lower convolution. The left membrana tympani was destroyed, with but little pus in the tympanum. The author assumes that the sheath of the acousticus or facialis had transmitted the inflammation to the meninges."

The vagaries of pus originating in and seeking exit from the middle ear are curious and various enough. Besides the modes and avenues of eruption which have been already described, are those associated with the condition known as mastoid periosteitis—a condition characterized by Pomeroy as "the simplest and most frequent form of mastoid disease ordinarily met with in practice." Unfortunately the case of

<sup>&</sup>lt;sup>1</sup> Burnett's "Treatise on the Ear," p. 451.

<sup>&</sup>lt;sup>2</sup> Archives of Otology, vol. viii., p. 384.

my own to which I shall now refer presents an aggravated phase of the disorder. The patient, a gentleman of culture and refinement, but with evident (hereditary) strumous diathesis, was sent to me some years ago by a physician in a small town not very far from us. The doctor could not operate on him, as he was treating a severe case of erysipelas, but promised that I would, and would give him a cure in two or three days. (He had been under his care for about six months.)

There was a cavity under one temporal muscle, containing about one ounce of pus, the burrowing of which was checked in upward and backward direction by the attachments of the muscle. An incision was promptly made, the sac drained, and compressed sponges snugly bandaged on and then wetted to insure even pressure. Tonic treatment was employed, fever and other symptoms met as they arose, and for a time improvement was marked and a good result looked for. Finally, however, an accumulation of pus was detected about the mastoid attachment of the sterno-cleido muscle, and Dr. Ford Thompson was consulted. He advised and made, under ether, three large incisions, so as to secure complete throughand-through drainage with daily irrigation; and after some time the sac seemed obliterated.

All this while discharges from the external ear would occur from time to time, and whenever they would cease the sac would give compensatory exit to the accumulations. When the drum membrane was perforate, the "whistle" was distinctly audible so that no ocular proof of rupture was needed. He was finally made to practise this exercise. Of course the ear itself was carefully treated (with antiseptic solutions, boracic acid dry, etc., etc.).

After the cavity was closed and Dr. Thompson had retired from the case, I detected another sac over the middle of the occipital bone, just above the ridge. This I incised in the most dependent part and drained with a tube. After a tedious process the patient made a good recovery, and is, I believe, at one of our hotels at this time. Dr. Lachlan Tyler, of this city, and Dr. Chisholm, of Baltimore, were my advisers in the case before Dr. Thompson was called in.

Pomeroy details at length a case precisely similar to this, and describes the "mode of invasion" as "outward from the

tympanum along the periosteal lining of the osseous meatus until the covering of the mastoid is reached."

And now, having consumed thus much of your time with the details of these two unfortunate instances, and with the various citations made in the attempt to illustrate them, I pass briefly to my conclusion, viz., that in all cases of children in whom deafness is observed (not before noticed and accounted for), especially in such as present a history of exanthematous disease or of pharyngeal or nasal catarrli, as well as in those cases which offer more positive evidences of acute suppurative inflammation, it should be our duty, as it certainly shall be my practice after this dearly-bought experience, to exhaust all means of examination and diagnosis in order to ascertain if there be indication for early paracentesis of the membrana tympani, and, if such exist, to have the operation done at once; or, if the specialist's skill be not available, to do it for yourself-for I remember the teaching of Dr. C. R. Agnew on this point: that while not every man could be said to be capable of doing the operation, it could safely be affirmed that any one sufficiently in possession of his faculties to insert his latch key into the lock to which it belonged was fully competent to perform it, especially in an emergency.

605 FOURTEENTH STREET, N. W., WASHINGTON, D. C.

### INTRA-UTERINE PACKING FORCEPS.

ВΥ

#### HENRY J. GARRIGUES, M.D.,

Professor of Obstetrics at the New York Post-Graduate Medical School and Hospital; Gynecologist to St. Mark's Hospital, etc.

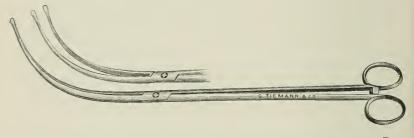
(With one illustration.)

So far as I know, it is to Professor Fritsch, of Breslau, we owe the method of packing the uterine cavity with iodoform gauze. It is an excellent method for many purposes, such

<sup>&</sup>lt;sup>1</sup> H. Fritsch, Volkmann's Klinische Vorträge, No. 288, Leipzig, 1886.

as arresting hemorrhage in obstetric and gynecological cases, or treating endometritis and parenchymatous metritis. The gauze is in itself a remedy and may be used as a carrier for medicinal fluids or powders. It acts not only directly on the mucous membrane with which it comes in contact, but indirectly on the structure of the muscular layer of the uterus.

It is used both in the neck and the body of the womb. In the cervix it is easily applied with some kind of dressing forceps or applicator. For the puerperal uterus, with its wide, soft cervix, the strong curved forceps mentioned in my "Guide in Antiseptic Midwifery" as suitable for introducing intrauterine suppositories, are serviceable; but for gynecological cases, especially the small uterus of a nullipara, there is no convenient instrument. I have, therefore, had the one



made which is delineated in the accompanying figure. It is eleven inches long, curved like a male catheter, very slender in the part that corresponds to the cervix. It has a knob like a uterine sound, as a safeguard against wounding or perforating the uterus. The last inch of the inner surface of the branches is ridged transversely, so as to get a good hold of the strip to be carried into the interior of the uterus. For the same purpose the instrument has a catch; and a French lock permits it to be cleaned thoroughly and with ease.

This instrument has stood the test of practical trial in my own hands and those of others, and I am sure everybody who will try it will be pleased with the ease and rapidity with which by its use any uterine cavity can be filled.

The patient occupies the dorsal decubitus. Cusco's speculum or a similar instrument is introduced. In many cases it

<sup>&</sup>lt;sup>1</sup> Garrigues, "Practical Guide in Antiseptic Midwifery," Detroit, Mich., 1886, p. 59.

is not even necessary to dilate the cervical canal. The ganze is cut in strips an inch wide, one end of the strip is seized between the branches of the forceps, the catch is closed, and the forceps is carried right up to the fundus. Then the instrument is opened and withdrawn. Arrived at the external os, it seizes again the strip and carries a second fold up to the fundus, and so on until the whole cavity is full. An end is left hanging in the vagina by means of which the gauze can be withdrawn.

On account of the porosity of the gauze, the tampon works at the same time as a drain. Being impregnated with iodoform, it may be left in for five or six days, if it is applied after curetting and washing out with disinfectants. In gonorrheal endometritis it is changed every day.

Far from eausing pain, the packing gives comfort, probably on account of the anodyne effect of the iodoform.

# TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF CHICAGO.

Regular Meeting, July 24th, 1891. The President, W. W. Jaggard, in the Chair,

Dr. D. T. Nelson.—I have here an illustration of the IMPROPER USE OF A PESSARY

that has been retained for a great length of time and has apparently done very little harm. It is very satisfactorily disinfected by what is to me a new disinfectant; it is an American-made product, and from my present experience in using it I should say it is simply creolin, but it costs only about half as much. It is called sulphonaphthal. Theodore Metcalf & Co., 39 Tremont street, Boston, have it, and doubtless any of the druggists can get it if there is a demand for it.

The patient who wore this pessary is 69 years of age. She presented herself at my office July 21st; she has been a widow eighteen years, was the mother of two children, 36 and 31 years old respectively; she had had two miscarriages. The pessary was introduced for falling of the womb thirteen years ago in Philadelphia, and had never been removed. The menopause occurred in 1865, some thirteen years previous to the introduction of the pessary. There has been a bloody discharge from the vulva for about two years. She has used warm-water douches for the past two years; for eleven years previous to that time she did not use anything but ordinary soap and water for external bathing. It is the open horseshoe Hodge pessary. When I removed it, the right-hand angle of the horseshoe was behind the sphincter of the vagina, embedded in the mucous membrane, and the right leg presented in the vulva; the left leg was just anterior to the cervix and embedded in the mucous membrane. It had by pressure and ulceration passed through the muscular structure of the vagina, and was so firmly fixed that it required quite a little force to pull it out.

Dr. Henry Banga read a paper on

THE PRINCIPLES OF THE TREATMENT OF UTERINE DISPLACEMENTS.

Dr. T. J. Watkins.—Dr. Banga, in his very able paper, seems to include all antepositions of the uterus under the term anteflexion, and all retropositions of the uterus under the term retroflexion. The paper, it seems to me, is a good guide in the treatment of a few cases of uterine displacements in which the patient does not suffer directly from the malposition of the uterus. The uterus in these cases will usually be found about normal in size and not tender to the touch. Should the displaced uterus, however, be large as the result of eongestion, edema, or hyperplasia, and painful to the touch, I believe that the only rational treatment is to restore the organ to, and retain it in, its natural position. Dr. Banga proposes to employ thorough drainage to relieve the uterns of its secretions. But are not the increased secretions of the uterus due to the congestion and edema which result from tension and torsion of the broad ligaments?

I believe that the principle of treatment of the displacements of the uterus depends entirely on keeping the organ in its normal location. The location of the uterus depends on the location of its cervix. The cervix is located normally about one inch from the sacrum; when so located it is impossible for any appreciable amount of retroposition of the uterus to occur. I implicitly believe in the use of pessaries in the treatment of displacements of the uterus. Their object is to hold the cervix in its normal location. I would ask Dr. Banga if it be possible to relieve vesical symptoms, due to displacements of the uterus, by correcting the quality of the urine and by direct treatment of the cystitis? I attribute

<sup>&</sup>lt;sup>1</sup> See original article, page 1.

the vesical symptoms of the displacements of the nterus to tension upon the neck of the bladder, and occasionally to

pressure upon the same organ.

When the displacement is dependent upon laceration or stretching of either the pubic or sacral segment of the pelvic floor, the injured tissue should be restored. Indeed, the uterus cannot become displaced when the pelvic floor is intact and involuted.

The constipation in many of these cases I believe to be due to pressure of the uterus upon the rectum and a contracted state of the sphincter and muscle. Thorough stretching of

the sphincter ani frequently relieves the constipation.

Dr. J. Suydam Knox.—I think those of us who have had experience in the treatment of those diseases of women connected with the nterns will agree with Dr. Banga that there are many cases of uterine displacement which in no way affect the health of the women and require no treatment; also that there are many cases of uterine displacement, caused by abnormal or inflammatory conditions, that are injured by the use of the pessary. However, I am satisfied that there are many cases also where irritability of the bladder, pelvic pain, uterine congestion, hyperplasia, constipation, and other symptoms are due to dislocations of the uterus and are only cured by the mechanical support of the womb. Therefore in such cases I am a positive advocate of the use of a properly fitting pessary. There are certain facts which none can dispute. One is that the normal position of the uterus is anteverted and lifted, so that the external os does not rest upon the posterior wall of the vagina or upon the rectum. Another fact is that the malposition or dislocation of the uterus does disturb its circulation, causing retention of the venous blood and thereby producing passive venous congestion and ultimating in hyperplasia of the uterus. Another fact is that pressure upon the bladder produces irritability, and upon the rectum produces constipation. If these conditions are caused by dislocation of the uterus, common sense would say that a correction of the dislocation would remove them. The ligaments which support the womb in its normal position are quite muscular, and if the strain put upon them by the dislocation is relieved the natural tendency of that tissue is to contract; and therefore, with the proper wearing of the pessary, I can see how ligaments which did not sustain the uterus before do so after the introduction of the pessary. The vagina is also a muscular organ, and the descent of the uterus causes its fibres to contract; and a dislocated uterus will undoubtedly have below it a shortened vagina, which must be stretched upward to accommodate the proper position of the uterus. I believe that pessaries accomplish but little for patients, unless they are constantly attended to. My rule in practice is, after I introduce a pessary, to require the woman to come to the office at least once a week and have the vagina extended, to overcome its contraction so that the uterus can be maintained in a high position; and I know I state a fact when I say that I have always seen the vagina lengthen from one-half to one and one-half inches by such process. I believe a vagina shortened under a displaced uterus maintains the displacement, and the simple putting-in of a pessary so as to antevert the uterus and hold it off the rectum is not a cure. The cure is accomplished by gradual extension of the vagina, just as you cure a stricture by the gradual introduction of larger and larger sounds. If the patient will not come to my office as directed, I remove the pessary, because I believe that

a pessary unattended does more harm than good.

A pessary should be ingeniously fitted. It should be fitted in such a way that it will give the patient no pain and will maintain the uterns in the position you desire, and that position should be maintained by yourself by the frequent examination of the pessary and its proper adjustment. So worn, I can recall scores of patients where all abnormal symptoms were cared and the displacement of the aterus permanently rectified. I have seen very few cases where pessaries have been long worn. I do not think they need be worn more than four months at a time. It is not necessary to remove them during that time, if the patient uses proper cleanliness. If one is not benefited by the pessary in four months' time, she is not going to be benefited by it, and I remove it; if then I find the womb has a tendency to descend, I try one of different pattern. The rule I have followed in the permanent removal of the pessary is: After the patient has come to my office for two months once a week and I find the pessary will remain in position, that the contraction of the vagina has disappeared, and there is no tendency to drag the uterus down, I tell her to come to the office at the end of ten days, then in two weeks; and when I find the pessary remaining in position two full weeks I think it safe to remove it.

I never introduce a pessary when there are any inflammatory conditions; if the pessary gives pain I take it out and treat the parts until the pessary can be worn. The pessary should fit as comfortably as an old shoe; the patient ought not

to know that it is there.

Dr. Henry P. Newman.—While I fully appreciate the fact that much harm has been done by the improper use of pessaries, also the meddlesome interference of treating some forms of uterine displacements by any local procedure, I realize also the benefits that may be derived from the judicious employment of the pessary and approved methods of

local treatment. Still, displacements of the uterus are not to be treated by instrumental support alone. In a certain class of cases the tamponade, electricity, massage, and other sur-

gical procedures are as applicable as the pessary.

I am sorry not to have heard all of Dr. Banga's paper, but, as I understand his position, it is that displacements of the uterus have no distinctive symptomatology; that the same symptoms which are generally referred to uterine displacements occur in other pelvic lesions independent of the position of the uterus. He attributes them most frequently to rectal and vesical troubles, and regards constipation as the causative factor in an unusually large per cent of cases.

Although eighty per cent of gynecological cases may be associated with constipation, we should not lose sight of the fact that it is often the direct result of uterine displacement, or an accidental accompaniment as well as an occasional causa-

tive factor.

Displacements of the uterus should be regarded as hernial conditions and treated as such. Where they are productive of mischief, with the usual tendency to become worse, they should be treated in one of the ways indicated previously—tamponade, pessaries, massage, electricity, and other surgical procedures. The judicious selection of the local method, and its adaptability to individual cases, is the province of the gynecologist, and is often a matter of no little difficulty, inasmuch as social and other conditions may often determine the choice.

General treatment, systemic, postural, and such as is referred to by Dr. Banga, should not be lost sight of in any case where indications exist. Indeed, simple displacements of the virgin uterus without complications, as well as those outlined in the paper, are often best managed with as little

local interference as possible.

In another class of cases, where social or other conditions render local treatment impracticable or productive of no results, I have resorted to an operation to which I am somewhat partial, namely, the shortening of the round ligaments—a procedure which is to my mind a trifling one so far as the operation is concerned, and which certainly, in the hands of many, has proven most efficacious and gratifying. One of its principal recommendations in this connection is that by prompt relief of the displacement, and exemption from subsequent local treatment, the patient is free from the distressing impression that she has "womb trouble."

I am very strongly impressed with the value of massage when intelligently applied. It is almost universally used by clinicians abroad, and with very marked results. Of course where transaction exists we have operative measures which are not only essential to the keeping of the uterus in place,

but must be resorted to for relief of pelvic distress.

I am not ready to exclude the various malpositions of the uterus as factors in the production of pelvic symptoms, but I do believe with Dr. Banga that many cases are treated needlessly, and that there has been much abuse in the use of these local measures. But because a remedy has been abused it does not follow that there is no benefit to be derived from its

proper application.

Dr. F. H. Martin.—This is always a very fruitful subject to bring before a gynecological meeting; it invariably brings out a full discussion, and the reason, probably, is the fact that there is no royal road to the proper treatment of displacements of the uterus. Dr. Banga's paper seemed to me a very successful argument against the abuse of pessaries; if, however, the paper was intended to bring forward a new and universal treatment for displacements of the uterus, I think it failed decidedly in its object. The cases reported by Dr. Banga, without a single exception, were cases where the use of the pessary, or any form of mechanical support, was absolutely not indicated. The case he spoke of first was one in which nothing but malpraetice could have resulted from its treatment with pessaries. The second case was one in which the uterus was retroverted when he found it, with the pessary intact. One of the cardinal rules of fitting the pessary would be violated in that fact. This same subject was brought up at the last meeting of the American Medical Association, in the Section of Gynecology, and it seems strange that about one-third of the speakers were positively against the use of pessaries in any shape or manner; another third were positively in favor of them, and thought that no other treatment should ever be used for displacements; while the remaining third took middle ground—that is, that first hygienic measures should be adopted, and all conditions remedied that the use of hygienic remedies would remedy; next, that if the uterus was markedly dislocated or displaced it should be replaced, if possible (this often requiring means for absorbing the inflammatory exudates, such as galvanism, the Brandt system of massage, or other mechanical means); after this had been accomplished, to put in a pessary and one that would fit. method of treatment was advocated by a third of the section, and it seems to me they had the best of the argument. To use common sense; if hygienic measures would answer, to do no more; if not, to do what was necessary.

I would like to ask Dr. Knox why he dilates the vagina. The trouble with cases in which I employ pessaries generally is that the vagina is so liable to dilate that a pessary which will fit to-day may not fit in a month because of this dilata-

tion. I have never found it necessary to dilate the vagina to prepare it for proper treatment by a pessary. I do not agree with him that proper instruction is not given to young men, to old men, or middle-aged men in regard to fitting pessaries. One-third of Prof. Mundé's book is taken up with this subject; almost every book on gynecology is filled with the discussion of displacements of the uterus and the proper fitting

of pessaries.

Dr. T. J. Crofford (Memphis, Tenn.).—I wish to say a word in regard to displacements from the proper position of the womb. We all know that the womb does not occupy the same position in any two cases. It is very difficult to define the proper position of the organ. It may be thrown forward by a loaded rectum; it may be thrown backward by a full bladder; it may be displaced downward by a full inspiration or rise again by an expiration; and what is a proper position in one case is not necessarily so in another case, and what is a proper position at this hour of the day may not be so later For instance, the stomach and intestines being filled, the womb will be lowered. So it is very difficult to define this thing of a proper position of the womb. One gentleman spoke of displacement causing inflammation; I have always believed that displacement was caused by inflammation, that it was the result. I was very much pleased with the paper in that respect. I believe if you have a case of displaced uterus —as in the case where the young lady jumped out of a buggy that if the uterus is replaced and the patient put to bed and stavs there for a sufficient length of time for these ligaments to regain their tone, there is no need of a pessary, and I believe we would not be so likely to have perfect recovery by the use of a pessary as without it. I would much rather take a fresh case like that, and replace the organ; and if I used a support at all it would be gauze in the vagina or a tampon, in preference to any pessary I ever saw. I have never known much good to come from the use of the pessary; on the contrary, I have seen a great deal of harm. I have seen pelvic peritonitis and diseased ovaries and tubes arising from its use. However, I believe pessaries have a place in gynecology; I am reminded of the old Latin maxim which says, "The abuse of a thing should not prevent the lawful use of the thing." If I were to pass a criticism on the paper at all, it would be that it is perhaps a little too sweeping; but I have been entertained by it very much and heartily concur with the doctor in nearly everything he says.

Dr. Knox (in reply to Dr. Martin).—I did not say I believed in dilatation of the vagina, but in elongation. I think the smaller the pessary the patient can wear the better. I

believe in elongation; it is the longitudinal fibres, not the eircular ones, that are contracted.

Dr. Henry Banga, in closing the discussion, said: I thank the gentlemen for the interest they have taken in the discussion. It has been said that the falling backward of the uterus causes a kind of twisting of the broad ligament which interferes with uterine circulation. Now, while, in an acute case, a few hours or days after the occurrence of the displacement we might find the circulation obstructed, we could hardly understand how such a condition should become chronic and last many years, since collateral circulation would in a short time re-establish the proper supply of blood to the womb.

Dr. Watkins asked whether I thought gravel causing bladder troubles was easily cured by flushing. Most assuredly, if kept up for some time and if the patient lives on a certain diet. Immediate relief will follow liberal drinking and an effort to retain the urine. The passage of large quantities of urine may be free from pain, while a few drops at a time will

produce the most intense burning.

Several of the gentlemen have spoken, in reference to retroflexion, of "a well-fitting," "well-applied" pessary, and have said that relief depends upon the pessary being adapted to the particular case. I think the facts are these: We all consider anteversion as the "normal" position; therefore to bring the retroverted uterus back to its normal position must mean to put it in anteversion. We generally do this bimanually or by means of the sound. In most cases the uterus falls back into Douglas' cul de-sae as soon as we withdraw the sound or the finger. In order to secure the anteverted position we must press the eervix backward and downward towards the hollow of the sacrum. Any pessary intended to maintain the uterus in anteversion must in some way take hold of the cervix, pushing it backward. The common Hodge pessary does not even touch the cervix, therefore it cannot secure anteversion. Thousands of physicians, however, use it; their patients feel improved by wearing it. It is of course a delusion on the part of the doctor as well as the patient to credit the instrument with the improvement. This improvement of thousands of retroflexion patients while wearing the Hodge pessary (which pessary, being absolutely unfit to maintain the uterus in normal anteversion, leaves that organ actually retroflexed) is an unmistakable refutation of the claims put forward by those who use the mechanical treatment.

It has also been said that the pessary, by supporting the uterus, relieves its natural support, i.e., the muscular fibres embedded in the uterine ligaments and the pelvic floor. I think it just does the opposite. Any organ deprived of its

natural function will degenerate. There is an identical case with wearing a corset. Ask any lady who has tried to do without her corset, and she will tell you that she is unable to hold up her back without it. I really believe her back to be too weak simply because, from long use of the corset, the dorsal muscles have become atrophied. In like manner, if the natural supports of the uterus were relieved from duty by the pessary (which I deny), they would atrophy and the displacement would become so much the worse.

I advise patients to walk in spite of the bearing-down feeling, because I know that such exercising will also strengthen the perineum. The same principle holds good in forcing the

bowels to act regularly.

It has been said, in reference to pessaries, that they should cause the patients no discomfort whatever. If we remember how difficult it is to lift up a retroflexed uterus and how much pressure is sometimes necessary to force the cervix back, I cannot help thinking that a pessary intended to support the uterus must first get a firm base in the vagina by stretching it. This will at least cause an uncomfortable feeling. In fact, it may be said that any "well-applied" pessary which the patient does not feel at all is of no earthly use to her.

## EXHIBITION OF INSTRUMENTS: LAPARATOMY NEEDLE.

Dr. T. J. Crofford exhibited a needle for closing an abdominal incision after laparatomy, and said: There is perhaps no part of surgery that is more important than the introduction of sutures, and there have been various methods of putting them in. I have had a great deal of worry in my abdominal cases, on account of putting in the stitches and getting them to approximate and do it quickly enough. Three or four days ago I saw a prominent surgeon in this city close an abdominal incision. I thought he was a very dexterous operator, but he was thirty-five minutes by the watch putting in the stitches and getting through with that

part of it.

About a year ago I conceived the idea of making a needle longer and giving it a curve as you see here. I have been using this needle for twelve months, and have closed about thirty abdominal incisions with the one I have at home. With this needle you can in five minutes put in stitches that ordinarily will take twenty or thirty minutes. The object of the needle is to put in both sides at once: letting this towel represent the two sides of the abdominal incision, you come right down on one side and up on the other through the edges at one stroke; then when you draw it back it opens up and your assistant passes the thread through. I am in the habit of using silkworm gut. The needle is quite as appli-

cable to amputations, and if you want to put in the buried silk or catgut sutures that some are so fond of using now, you can do it quite well. This is a large needle, and you can get a firm grasp and there is no effort at all. You can run down through one side and up through the other; your assistant throws in the stitch. In five minutes you can close an incision extending from the ensiform cartilage to the symphysis pubis. Where it is desirable to avoid shock this is a considerable aid. I have used it in thirty cases. It has been used in several amputations, and every one, so far as I know, is well pleased with it.

I use no other needle in abdominal cases, using this for a pedicle needle; you can thread it with any size silk. When the nurse prepares for the operation she puts in the sterilized

silk.

Dr. Frank.—Dr. Crofford explains that he picks up the abdominal walls and passes the needle through in this way. I would like to ask if it is easy to adapt the peritoneal surfaces, the fascia, and muscles by picking it up in that way and driving it through, or whether he pays any attention to adapt-

ing the peritoneum, fascia, muscle, and skin.

Dr. Crofford.—Yes, sir; the same attention as with any other needle. The assistant is on the opposite side of the table and keeps one side straight, the operator keeps the other side straight. It is my habit to begin by putting a suture in the middle, then half-way from the top or bottom, and so on, filling in between; you go through the peritoneum and fascia and close them all at once.

#### EXHIBITION OF FIBROID POLYPUS.

Dr. T. J. Watkins.—The specimen I show you is a submucous fibroid polypus. When first removed it completely filled this quart jar. I present this tumor to the Society on account of (1) its size, (2) the difficulty in the diagnosis, (3) the method used in its removal, which to me is new. The tumor extended through the cervix and presented a mass in the vagina fully three inches in diameter. The difficulty in the diagnosis consisted in differentiating between a polypus and an inversion of the uterus: (1) the growth was associated with a very large subserous fibroid; (2) the mass was sessile and attached to the whole cavity of the uterus. The diagnosis was made positive by opening the mass, when it became evident that its formation consisted of layers of tissue. In removing the polypus I divided it into ten or twelve sections, and then removed each section separately by enucleation with my finger. The uterus was then irrigated, the cavity swabbed with tineture of iodine and carbolic acid, and packed with iodoform gauze. Very little hemorrhage occurred; probably not more

than half an ounce of blood was lost. The patient made an uninterrupted recovery. I was invited to do this operation by the kindness of Dr. Anderson, of this city.

Regular Meeting, September 18th, 1891. The President, W. W. Jaggard, in the Chair.

MARCY'S PEDICLE NEEDLE.

Dr. Daniel T. Nelson.—The instrument has been designed by my friend Dr. Marcy, of Boston, who has worked for some ten years in making the eye and the point. It embodies certain features of both the Peaslee and Hagedorn needles. It has a slightly cutting edge upon its outer surface; the inner surface of the point is not cutting. The eye is so large that even without good eyesight it can be readily found, and should not cut when carrying the suture either way. It is designed to make a shoemaker's stitch, one of the most certain stitches and one which has been used from time immemorial by shoemakers. The needle is threaded, passed through, unthreaded, and the other end of the ligature inserted and carried back through the same hole. You can draw this stitch as tight as you please or leave it quite loose; it is not necessary to completely strangulate the tissues, but merely to stop the circulation in the vessels without destroying them, so that there is no danger of sloughing.

## MODIFIED HAGEDORN NEEDLES.

The Hagedorn needle is familiar to all of you as one of the easiest needles to enter the tissues, but the great difficulty has been to make a needle holder that would carry it. I find that when it is made with the following modification the fingers make a very convenient needle holder. The needle is heated near the eye, and then grasped with the forceps and twisted half round to the right or left so that you have a handle by which to grasp it. You can use any shape or size of Hagedorn in that way.

Dr. Nelson also presented some

#### RETRACTORS

made of flexible wire, so that their shape could be readily altered.

Dr. Franklin H. Martin presented several specimens; the first a

#### MULTILOCULAR OVARIAN CYST

from a case in which there was a little doubt as to the diagnosis.

Miss P., age 58, unmarried. Noticed enlargement of the abdomen about two years ago. I made a diagnosis of ovarian cyst, and operated at the Woman's Hospital, September 16th. I found a large multiple cyst of the right ovary, containing twenty pints of light amber fluid. There were no adhesions, and the operation was consequently extremely simple. An additional mass the size of an orange, growing over the right ovary, was also removed. The nature of this mass is doubtful. It seems to be simply a second multiple cyst.

The second was a

CANCEROUS UTERUS REMOVED BY VAGINAL HYSTERECTOMY.

Mrs. K., at. 50, has had six children and two miscarriages. She was referred to me by Dr. Nelson, of Winetka, Ill., with a diagnosis of cancer of the cervix. I removed the uterus per vaginam, employing one pair of Byford's forceps for the left broad ligament, and ligatures for the right broad ligament. I am quite sure I succeeded in getting beyond the cancer. The patient had an uninterrupted recovery and left the hospital September 12th.

The third was a

MULTIPLE FIBROID WITH CYST OF THE LEFT OVARY EMBEDDED IN THE BROAD LIGAMENT,

removed from Mrs. T., æt. 36. The cyst was the size of cocoanut. Tubes adherent. The operation was performed four weeks ago and the patient is now convalescent.

The fourth was a

MULTIPLE FIBROID WITH EXCESSIVE HEMORRHAGE.

The patient, Mrs. M., at. 30, married, one child, was much reduced. She was operated upon four weeks ago, and left the Woman's Hospital to-day in a condition of complete convalescence.

The fifth, a

#### SUPPOSED PYO-SALPINX,

was from Mrs. M., at. 28, widow. no children. A tumor was found posterior and to the right of the uterus. There was a history of gonorrheal infection. I found what I supposed to be pyo-salpinx. The right tube was firmly adherent; the left tube shelled out with great difficulty.

These specimens have been examined by Dr. Robinson, who has had rare opportunities with Mr. Tait to study tubes and ovaries, and is preparing a work on the subject, and he has kindly consented to explain the peculiarities of these

particular cases.

Dr. Fred Byron Robinson.'—Dr. Franklin Martin sent these tubes to me for examination in detail. One is a beautiful example of a tubo-ovarian cyst—that is, a cyst comprising the pathological ovary and the pathological tube. It is a very rare condition. In looking over the literature I only find about fifty or sixty cases recorded. Dr. Richard, a Frenchman, first described them; since then Rokitansky, Olshau-

sen, and about a score of others.

The fimbriated end of the tube closes over the ovary like an umbrella, and during menstruation there is a glairy fluid secreted. I have seen this frequently in animals and twice in the open abdomen of women. This glairy and sticky secretion is a physiological one; but if there is inflammatory action it becomes pathological, and the Graafian follicle, surrounded by the fimbriated end of the tube, to which it becomes everywhere adherent, dilates; then the ovary breaks and expands over the tube at the ostium externum. We thus have the tube closed at both ends—at the dilated end by the expanded ovary, at the narrow, uterine end by the swelling of the mucous membrane. As the swelling progresses the ampullar structure is almost crushed out of existence; the two muscular layers—the circular layer and the longitudinal layer -of the tube gradually become obliterated in the outer end. This is an old case. The contents of the tube were a vellowish, limpid fluid, and there was a substance in it which was not albumen, but acted nearly like it. Besides this there were some epithelial cells, of which a few were ciliated. Then there was a lot of crystallized material with various facets; but the crystals were so irregular I could not tell to what system they belonged. Pigment was sparsely scattered on its walls. The proof that this is not simply a tubal disease is that the ovary, which was a very large one, of solid fibrous tissue, had spread itself out like a leaf over the end of the tube. Hence the first stage must have been the sealing of the fimbriated edge of the tube to the ovary: the second stage must have been pathological, a cementing taking place by means of inflammatory action; and the next stage a catarrhal condition of the tube which closed the uterine end. This is rare: Olshausen did three hundred laparatomies and only found this condition three times. This is the most perfect sample I have ever seen.

The other tubes Dr. Martin handed to me are even more interesting. One is something that is rarely seen—a double tube. The only way to see it well is to float it in water. The first tube has the ordinary fimbriated extremity and accessory abdominal ostium. The accessory tube, which can be

<sup>&</sup>lt;sup>1</sup> See original article, page 1311, November, 1891.

traced to the uterus, is perfect, with a fimbriated extremity. We have three ostia on one side and two tubes. Hennig is about the only man who has written much about extra tubes, and out of one hundred female bodies he found three cases. I have seen several, but never one so perfect as this. The explanation of accessory ostia goes back to the Wolffian body; they are portions segmented off from the Wolffian body, or invaginated, which come to the surface, and then do not become covered with epithelium but form fimbriæ. The second Fallopian tube originated when the normal tube was segmented off from the Wolffian body, a second invagination and a second tube coming with it. I have found quite a number of variations in examining the Wolffian bodies of about one hundred pig embryos. Extra tubes do not occur in one per cent of women.

Here is an illustration of another interesting point in the development of the Wolffian body. Beginning at the fimbriated extremity of the tube, you can see the parovarium; here is Gärtner's duct running down; here are three of Kobelt's tubes dilated. This is something I have seen many times, and I think Bland Sutton is wrong when he calls it a broadligament cyst, because it occurs often and always at the same points. I think it is simply the remains of the Wolffian body. You see that Gärtner's duct is not dilated at all; the parovarium is dilated, and at its distal end are three of Ko-

belt's tubes, all of them dilated.

It is a condition occurring in sows, cows, and women. This little bit of a cyst is at the point where the fimbriated extremity of the Fallopian tube begins to expand; here is another and another. I do not think the pathology was improved when some one proposed calling these broad-ligament cysts; they are not, they are parovarian cysts, and the tubes Dr. Martin sent me illustrate this more clearly than any I have seen. I have seen Tait take one of these cysts, nearly as large as a child's head, out of Gärtner's duct; the remaining tube was the size of my little finger and about five inches long. I have seen Gärtner's duct dilated a great many times in the sow and the cow.

Dr. Byford.—I believe there are two or three varieties of tubo-ovarian cyst described. I suppose this is a typical one, and I would ask Dr. Robinson if he would consider a case of ovarian tumor developing and bursting in the tube, and going on developing, a tubo-ovarian cyst, an ovarian follicle, or cystoma, to which the tube becomes attached, bursts into the tube through violence or any other cause, and goes on developing.

Dr. Robinson.—I should rather put that under another division. If the tube was simply expanded by fluid I would

call that hydro-salpinx, but when the ovary shares in the pathological dilatation then it is a tubo-ovarian eyst proper. Of course there must be a connection between the ovary and the tube; the pathological condition is that the ovary does the main share, it spreads out like a fan or basin. I would call Dr. Byford's case hydro-salpinx, but if the ovary shares the main pathology of the cyst it is tubo-ovarian. The pathology is, first, cystoma of the ovary; second, the cementing of the fimbriated end of the tube to the cystoma of the ovary; and third, the cystic ovary bursts into the tube and subsequent inflammation completes the condition.

Dr. Newman.—I would ask if these multiple tubes are common in the lower animals and if they have any functional

activity.

Dr. Robinson.—I have examined about six hundred tubes in the lower animals, and I never found an extra tube. I have never seen one of these supernumerary tubes that had any functional activity. Tubo-ovarian cyst occurs about as frequently in animals as in women.

Dr. Henry T. Byford read a paper entitled

CASES OF EXTRA-UTERINE PREGNANCY; ABDOMINAL SECTION; REMARKS UPON TREATMENT.

His conclusions were that if we have a case of extrauterine pregnancy in the early months, it would be safe to destroy the fetus by electricity, and keep the patient in bed until absorption has noticeably commenced. If rupture have occurred without serious hemorrhage, and a well-defined hematocele be discovered, we may put her to bed, diet her, keep her quiet, and wait, being at the same time ready for a laparatomy. If profuse repeated hemorrhages occur, it is safer to operate at once according to Tait's precepts. If development have gone on after the middle of pregnancy, either an immediate abdominal section is indicated, or feticide with operation later. In the ninth month, and at term, operate in the interests of the child, unless false labor have occurred. After that operate upon the appearance of the first evidence of sepsis.

Dr. Robinson.—I was very much pleased to hear this paper and much more pleased at its tone. About two years ago in New York I saw considerable tendency towards conservatism, but this is the first conservative paper I have heard in Chicago. I do not believe that every case that has a little tympanites should have the abdomen opened. I do not think that every ectopic pregnancy needs an operation—I agree with

<sup>&</sup>lt;sup>1</sup> See original article, page 1292, November, 1891.

the paper in that; even though there is rupture in the early stage and some bemorrhage, I think they will get better. I have had an opportunity of seeing this kind of thing throughout Europe, and I have noticed that a woman will get sick under a local practitioner's observation, and will be ill for some time, and finally the doctor will take her to some operator. In Europe specialists do all the operating, but in this country about every man who can get a scalpel in his hand operates. I have seen several of these operations in Europe, where the case had gone six or eight weeks; the blood clots would be found coagulated and would be taken out, and the operator would say at the time that the woman would have done better without an operation. Some of them died and some recovered, but they showed me that the woman would have done better if let alone, for nearly

everything was absorbed from the abdominal cavity.

While in Toledo for eighteen months, I watched abdominal sections over a radius of fifty miles, and I noted ten cases who died on the table or immediately after operation. course a great many of these cases were desperate and might have died anyway, but in most of them the operators were inexperienced, some of them not having done more than one operation and some of them none. I remember a young man who came to a prominent gynecologist there and asked him how he would do a laparatomy. He asked him how he would drain a belly with a tube standing straight up. The doctor told him, and then, thinking that the young man, who was totally without experience, was going home to do a laparatomy, he said: "Doctor, don't do that operation; you do not understand how to do it." But the young man went home and the next day did a laparatomy on a woman, 26 years of age, who had some tubal disturbance, and she died in twenty-four hours. I know of a number of similar cases, and I hope this paper of Dr. Byford will get to the physicians who have the inclination to operate but not the skill.

Dr. H. P. Newman.—I wish to say a word in regard to Dr. Byford's paper, and particularly to commend its conservative stand. The tendency of the day is in favor of abdominal surgery, particularly in cases of extra-uterine pregnancy, early, late, and all the time. Although it is being done with brilliant success in certain cases, the question arises, Is it necessary in many instances to the life of the patient? Perhaps we can learn a lesson from the lower animals. Dr. Robinson tells us that ectopic pregnancy is not uncommon in the lower animals, but none of us have known, in our early days when living in the country where stock is raised, of deaths from any such source as this. I doubt if we can point to a single case. Nature has thrown around the reproductive organs safeguards

that I believe will protect women in a very large percentage of cases; in this way the lower animals are protected, and, as they have not this aggressive surgery, their lives are saved. I particularly regret that this conservative measure, the use of electricity for destroying the life of the embryo, is not more universally resorted to. I believe it is absolutely safe and effective, when used in the early months for this purpose. Hardly a case has been reported in which any danger has resulted from the judicious use of electricity for destroying the embryo, and when the child is once destroyed I believe the mother is a long way toward getting well. Nature will take care of the dead fetus very much in the same wise manner as she takes care of it in the uterine cavity. It is a common thing, as we know, for the child to die in advanced uterine pregnancy, and it is very uncommon for the mother to be endangered from its effect if let alone. If interfered with, the contrary is the case. If left until Nature has expelled the fetus, there is hardly ever a fatal result; but if interfered with, as soon as the child dies the dangers are greater.

I am well pleased with the stand taken in this paper, and hope that it will have its merited effect in this line of work, coming, as it does, from one of so large experience in abdomi-

nal surgery.

Dr. Robinson.—One of the gentlemen has misunderstood I did not refer to the ability of men in the country or in the city, because the ability of men is a good deal alike. Men's heads are much like the heads in a wheat field—nearly all on the same level. It is the training I referred to. He asks how we would train our young men to do these operations, because they have to have a first case. The young man who seeks to be an oculist does not commence by operating on a cataract; he goes to an experienced oculist and learns what to do. The neurologist studies long before he will attempt to explore the cranium for an abscess. The dermatologist studies long and hard before he claims to know how to diagnose difficult cases. Obstetricians learn their business before they claim authority to do operations. In fact, in no important branch of surgery or medicine, except in abdominal surgery, do men expect success without hard experience. Yet in abdominal surgery many totally inexperienced rush blindly, with sanguine hopes that their operation in the peritoneal cavity will, by fate, be a success. A raw operator is ignorant of the great principles which are the legacy of past accumulations; the laws of abdominal surgery are moulded on the faults of our predecessors. It requires time to learn the signification of shock and trauma to viscera. It requires months of operative work to know how to be clean in an abdominal section, and much experience is required to know what to do after

the peritoneum is opened. It is selfish humanity that stakes a patient's life and risks the success of an abdominal section in a fresh operator's hands, just because he must have a first case. It is better to let a patient die naturally than to kill him by an operation. These young men should go to the masters to learn how to do these operations. They should do dissections to learn how to do these operations. They should prepare themselves before opening the abdomen, and if not prepared they should send for a man who is skilled. They should learn how to handle the intestines and the viscera by operations on the lower animals. In many of the laparatomies I have seen the patient die from shock because the operators were not skilled. They took too long. Forty minutes' exposure of the intestines will occasionally kill a dog. I say that those who do this kind of work should be as skilled as possible, so that the least harm may be done to the peritoneum and the operation may be finished in the shortest possible time. Watching the master's dissection, operations on the lower animals, and study will alone fit a man to do abdominal sections so that the operator's skill will defy the criticism of professional witnesses and the operation bear the inscrutable judgments of time.

DR. Byford.—I do not see why a patient should ordinarily bleed to death from a rupture of the tube. The vessels are not lacerated near the main trunks, and should in a short time stop bleeding, as they usually do at the first hemorrhage. I have operated upon two intraperitoneal hematoceles in which the history pointed to previously ruptured extra-nterine pregnancy: They were covered by adherent intestines and very firm capsules. If the patient is kept quiet the blood will

coagulate and prevent further hemorrhage.

After the fourth month the case is different. I cannot agree with the recommendation that after that time we should allow the case to go on until viability of the child, because death of the fetus and sepsis occur in quite a percentage of instances. In case of operation near full term, the danger of hemorrhage from a partially detached placenta is great even when the operator disturbs it as little as possible. I have seen two deaths in such cases of unavoidable partial detachment, in which the operators did not suspect such results.

In looking over the literature I made the same observation that Dr. Robinson does with regard to the necessity for ope-

ration.

Dr. H. P. Newman.—I would say the doctor might include in his summary the warning not to operate during labor. When labor has once begun, I believe the authorities are united against operation. It is preferable to wait, as the child invariably dies during labor, and there is greater probability of saving the mother by watching the case and allowing the placenta to become atrophied.

Dr. Byford.—Is not that dangerous, on account of sepsis

from the dead child and laceration from the pressure?

Dr. Newman.—The danger in operating at that time is from the large, very vascular placenta, which in time will entirely atrophy, rendering the operation comparatively safe. Of course those cases which become septic require operation in spite of the condition; but a goodly number of them, I believe, will not do so, inasmuch as we have history after history of the dead fetus at term which becomes mummified or is gradually absorbed without the formation of septic matter. As regards the possible rupture of the sac, this can usually be obviated by free administration of opiates and enjoining absolute rest.

# TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF CINCINNATI.

Regular Meeting, May 14th, 1891.

The President, Dr. E. W. MITCHELL, in the Chair.

Dr. C. L. Bonifield read a paper entitled

THE TREATMENT OF ABORTION.1

Dr. C. D. Palmer said the subject of the treatment of abortions should be divided into prophylactic and curative.

As a preventive measure, it is very probable that viburnum prunifolium is worthy of consideration in some cases. There is no better preparation of this drug than that made by Lloyd, the pharmacist of this city—a preparation which represents all of the active ingredients of the drug, without any of the extraneous material contained in the fluid extracts.

Another remedy of great value, applicable rather for cases of premature delivery than for cases of abortion proper, is the chlorate of potassium. First suggested to us by Sir James Y. Simpson, it is especially to be used in cases of actual or supposed fatty degeneration of the placenta. The following case, worth relating, though previously reported, is illustrative. A colored woman presented herself at the Dispensary of the Medical College of Ohio, pregnant the eleventh time. All of her previous pregnancies terminated prematurely with still-

<sup>&</sup>lt;sup>1</sup> See original article, page 49.

born children. Presuming that a fatty degeneration of the placenta was the causative element—for she was not syphilitic—she was given the chlorate of potash, in ten-grain doses, three times a day until term. From the end of her sixth month of utero-gestation she presented herself weekly at the clinic, and stethoscopic examinations each time were made of the fetal heart. She went this time—the eleventh—to full term, and was delivered of a live, healthy child, which, so far as I know, is still living.

The curative treatment consists in the use, for the most part, of four remedies—opium, ergot, the vaginal tampon, and

the curette.

Opium unquestionably is a most valuable remedy if given very early. It arrests uterine contractions, stops pain, and prevents expulsion of the fetal contents. When given later, and when the retention of the uterine contents is impossible, its use tends to facilitate expansion of the cervical canal and assists in the fetal expulsion which is inevitable and merely a question of time. Small doses of opium also act as a cardiac

tonic where great quantities of blood have been lost.

It is a very common practice to employ the fluid extract of ergot to arrest hemorrhage in the early stages of abortion. Possibly the hemorrhage may be checked somewhat in this way at times, but as ergot naturally contracts all of the muscular fibres of the uterus—of the cervix as well as of the corpus uteri—it stands to reason that ergot given too early delays the inevitable fetal expulsion and practically perpetuates the uterine hemorrhage. Given later, however, when the cervical canal is fairly well open, it easily aids fetal expulsion and therein controls uterine hemorrhage.

Ergot in small doses is a very valuable remedy to bring about permanent uterine contractions and to aid in the necessary uterine involution. Opium is contra-indicated when ergot is useful, as ergot is contra-indicated when opium is

indicated.

If the tampon is to be employed for hemorrhage, always irrigate the vagina and cervix uteri with large quantities of hot bichloride water (1 to 4,000). The hot water is more or less hemostatic, and, medicated with the mercuric bichloride, is actively antiseptic. The best tampon is prepared from absorbent cotton, of which a small pledget is inserted within the cervical canal, one larger behind the cervix uteri, and the largest sized one is placed in the vagina below the previously inserted ones. These are not allowed to remain longer than from six to eight hours, when they are withdrawn and the vagina is irrigated as before, whether another is inserted or not. If hemorrhage continues, a second or third is inserted until the uterus is fairly emptied. Usually after the with-

drawal of the first one the ovum is expelled, or can be easily

removed with the antiseptic finger.

If now the uterus is not completely emptied, hemorrhagic discharges continue and involution is delayed. A thorough curetting with the dull wire curette, if antiseptically done, safely corrects both conditions.

Dr. Trush said he could, from his own experience, testify to the usefulness of ehlorate of potash in cases of habitual abortion, having used the drug in a number of instances of this character with successful results. He had little or no experience with the viburnum prunifolium, so much lauded in certain quarters as a remedy for similar conditions. Respecting the treatment of impending abortions, that would necessarily vary with the aspect of the given case. If thought to be preventable, the remedial measures mentioned by the essayist-opium, cooling drinks, absolute rest in the recumbent posture-were undoubtedly among the best at our disposal. He had never used ergot in supposed preventable cases, having always been of the belief that in so doing he would hasten rather than arrest a threatened abortion—in other words, render it inevitable. For an inevitable abortion he had recourse to plugs, cervical and vaginal; employing a thoroughly aseptic sponge tent in the cervix, and either lamb'swool or a properly prepared cheese-cloth roller bandage in the vagina—he preferred the lamb's-wool to ordinary absorbent cotton, because, unlike the latter, it, even if wet, always remained soft and elastic; but he was even more partial to the cheese-cloth bandage, mainly, however, on the score of convenience, it being so easy both of application and removal. He interfered, however, as little as possible, so long as the ovum remained intact; but after rupture of the membranes and escape of the fetus he always endeavored to remove the secundines as speedily as possible, and for this purpose depended mainly upon the finger or fingers, his experience with instruments-placental forceps, eurettes, and the like -being decidedly unfavorable. He agreed with previous speakers that it was at times extremely difficult to decide whether or not a given case should be regarded as preventable or as inevitable. The character and amount of the hemorrhage, though a pretty good guide, could not always be depended upon, as cases with rather profuse hemorrhage sometimes were arrested, and, vice versa, cases with very slight loss of blood went right along, despite all efforts at arrest, to a final evacuation of the uterus. He believed we possessed a very reliable criterion respecting the preventability of an impending abortion, in the shape of the cervix: if this was balloonshaped, thus showing that the os internum had already undergone dilatation, the case, so far as arrest was concerned, was hopeless; at least this was his, the speaker's, experience. Unfortunately he was constrained to say that, judging from what he had seen, the reverse—viz., that all cases not presenting the balloon-shaped cervix might be regarded as hopeful of arrest—could not be maintained.

As regards the antiseptic value of creolin, his experience, which, however, had been rather limited, was adverse to the agent; septic processes having cropped out in a number of instances among his lying-in patients, notwithstanding the diligent and energetic use of creolin. It certainly could not be

compared in reliability to the bichloride.

Dr. J. L. Cleveland thought the essayist was orthodox in his statements, and for that reason there was not much room for criticism. In his opinion the cases that require tamponing are rare. In his long experience he never saw a case that he thought was in danger of death from hemorrhage. He had used the tampon, but it was more to obtain a dilatation of the

os uteri than to arrest the bleeding.

He never used, and did not sanction the use of, corrosive sublimate, because, in his opinion, in these cases it was dangerous. Besides, the drug is intensely irritating and liable to increase inflammation; let only a small quantity of a 1 to 2,000 solution get in the eye, the pain, congestion, and swelling will soon convince one of this fact. He believed much more benefit is to be derived from asepsis than from anti-

septics.

When a tampon is necessary, muslin wrung out in hot water, or a gauze band, is preferable to cotton, because the latter is so hard to remove. As to removing the remains of membranes, etc., he preferred to do so with the finger, and believed it better than any curette; had always been able to succeed in this way, and never had occasion to use the placenta forceps. If, however, the case has been neglected, the os contracted so as to prevent the introduction of the finger, he generally preferred the dull-wire curette.

Dr. Byron Stanton said that he had to take exception to the manner in which the essayist employed ergot—that is, to the conditions in which he recommended its administration. Ergot will sometimes stop hemorrhage and prevent abortion, and sometimes, after large doses, expel the fetus; the contractions are not, however, natural, but are more continuous in character, and are more apt to result in retention of the pla-

centa.

When necessary to tampon, he thought it advisable to use a sponge tent at the same time. In those cases where the hemorrhage was severe, the tent made a complete plug, so that the hemorrhage was controlled, while at the same time.

the os was dilated and softened; the arrest of hemorrhage is more prompt, and the vagina need not be tamponed so tightly, so that the uneasy, disagreeable symptoms necessarily following tamponing are to a certain extent avoided.

In regard to instruments, he believed the finger, when the os is open, to be the best agent, and rarely resorted to the use

of any instruments, either curette or forceps.

Dr. C. A. L. Reed said he always used the curette when he was not able to succeed with the finger, but never used anything else than the finger when the os was open so as to allow its introduction. He recalled a case he operated on only a few days before, of an actress, where the os had contracted so that he was obliged to use forcible dilatation. He found adherent villi, which he removed by the wire curette with perfect success. As to sepsis, he treated it when it occurred, and did not have much faith in preventives, except absolute cleanliness.

Dr. E. S. McKee said she had a good result from the use of dioviburnia, also in certain cases had had exceptionally good results from chlorate of potash. As an antiseptic she thought that the bichloride of mercury was the best. Although no one could say for certain that its use had prevented sepsis,

she believed that it had in his practice.

Instead of using instruments for dilating the os, she used the finger, first one and then two, until it was sufficiently dilated.

Dr. George E. Jones said many of the members seemed to rely exclusively on the finger as a curette, because there was sensibility in the finger; to one accustomed to an instrument there was certainly a feeling transmitted so that one could say with what kind of material he had to deal.

Dr. Reamy indorsed everything the essayist said, with the

exception of a few minor points.

He must dissent from the practice of using sponge tents, as recommended by one of the speakers. It is a practice attended with considerable danger, for the reason that it is liable to injure the cervix and in this way increase the liability of sepsis. In criminal abortion the per cent of fatal cases is enormously large; probably, it is true, because there is a lack of asepsis, on account of traumata to the uterus by instruments, and injury to the cervix, which opens the lymphatics and makes the absorption of septic matter easy. If anything was to be used, he preferred to fill the cervix with cotton or cotton cloth, and then plug the vagina well.

He was convinced that Winckel is right in saying that too much is done in these cases, and perfectly agreed with Dr. Cleveland that in most cases the hemorrhage does no harm. Why should we interfere? The mortality in let-alone cases is

comparatively quite small.

Prior to the third month the attachments are not so adherent and the danger from hemorrhage is very slight. It is well to be on the watch for septicemia, but there is time

enough to treat it when it appears.

He must object to the manner in which the essayist uses ergot; he had on many occasions prevented abortion by giving small doses of ergot. When dilatation of the os is out of proportion to the hemorrhage, ergot in combination with

viburnum prunifolium is very beneficial.

The members seemed to be of the opinion that the best curette was the finger. He was unable to see why the curette was recommended at all. Why take instruments with which we are liable to cause injury to the patient? The placental forceps, which he had always recommended, cannot produce an injury to the uterine wall, but can only nip off the parts of placenta projecting. Later on, when there is hemorrhage, the curette is a very serviceable instrument to clean out or extract adherent placenta.

He decidedly objected to the use of the finger, so warmly advocated by many of the members, for to employ it theuterus must be pressed down and the ligaments stretched,

causing subinvolution and other evil results.

Dr. Bonifield, in closing, remarked that he thought creolin in large quantities was dangerous. Tamponing in order to control hemorrhage is not necessary when the patient is near at hand; but when in the country, or far from the medical attendant, so that considerable time would elapse before she could be seen in case of hemorrhage, it is certainly most advisable. The tampon, however, is not exclusively for the arrest of hemorrhage; it softens the cervix and is one of the best agents for increasing uterine contractions. Early rupture of membranes is apt to cause retention. Ergot causes a closure of the os, and for this reason should not be used for furthering abortion.

Dr. J. L. Cleveland reported the following case of

RECTO-VAGINAL LACERATION DURING PARTURITION, WITH RAPID REPAIR OF THE INJURY.

I was called, February 28th, to see Mrs. K., primipara, æt. 30, who was in charge of a midwife. The head was well down in the pelvis, which was sufficiently capacious, the position L. O. A. The pains were inefficient, the head having remained in the same position for several hours. The forceps were readily applied and delivery easily accomplished. There was no laceration of the external parts. While examining the parts digitally, a recto-vaginal rent was discovered, embracing the internal sphincter of the rectum, extending

longitudinally about one inch. The rent appeared much more extensive on account of the relaxed state of the parts. The patient was not seen again for three weeks, when a careful examination was made. An examination per vaginam was made without result, as no evidence of a fistula was discoverable. The examination per rectum was similarly negative at first, but after searching more carefully a small fistula, only large enough to pass an ordinary probe, was found just within the internal sphineter recti. It was so insignificant that it could be easily overlooked by any one unless the attention were especially directed to it. Apparently the fistula will be entirely closed. This case is of interest for two reasons—first, the completeness with which the rent healed when left to itself; and, second, the etiology. It is possible that this damage was done inadvertently by the blades of the forceps, but the care that I used and the ease of delivery make this method improbable. The most probable reason seems to me to be, that the vagina just at the sphineter was too small for the passage of the head, and that the rent continued through the sphincter muscles into the rectum.

Dr. Rufus P. Hall reported a case of

EXTRA-UTERINE PREGNANCY, WITH RUPTURE INTO THE PERITONEAL CAVITY AT ABOUT THE FIFTH WEEK;

OPERATION; RECOVERY.

Mrs. J. W., age 32, was referred to me by Dr. Armstrong July 2d, 1891. The patient gave the following history: She was the mother of two children-one 3 years old, the other 15 months. Since six months after the birth of the last child she has menstruated regularly, as had always been her habit, the flow continuing three or four days, without pain or other inconvenience. The last menstrual period was from May 5th to 9th, and the flow was normal in every respect. She expeeted the flow again June 2d, but it did not appear until June 16th and continued ten days. During the whole of this period she suffered constant pain, which at times was so severe as to require morphine to make her condition bearable. She was then under the care of Dr. Armstrong. The flow was irregular during the whole ten days. Sometimes it would be free for an hour or two, then merely a show for several hours. She suffered so severely that she could not leave her bed. On the 29th of June, three days after the flow had stopped, she had an attack of pain which was more severe than at any previous time, and her husband said that her extremities were bathed in perspiration, and were cold for half an hour or longer. After that date the colie-like pains gradually subsided. When I saw her, July 2d, she complained only of a sore, tender feeling over the whole abdomen. She was still confined to bed, although very much more comfortable than at any time for the past two weeks. She had a pulse of 100, temperature 99° F., some abdominal distention. Vaginal examination revealed nothing abnormal in the pelvis, except slight tenderness at the right of the uterus. Cervix was soft and uterus slightly enlarged. Dr. Armstrong had suggested extra-uterine pregnancy, and her symptoms were so suggestive of that condition that the patient was sent to the Cincinnati Free Hospital for Women, where she could be kept under observation for a few days. She improved so rapidly that on the 7th she considered herself well and asked to be allowed to go home. On that day, however, she was put under chloroform and a thorough examination made by my colleague Dr. Reed and myself, but no definite enlargement could be felt at either side of the uterus. On the 8th she was permitted to go home. She was informed that extra-uterine pregnancy was suspected, and instructed to send at once for me if she had a return of the pain, which she promised to do. She was able to do the work for her family until the 19th; yet she was far from feeling well most of the time. On that date she commenced to have fever, with some pain in the lower part of the abdomen, which rapidly grew worse. She sent for me the 20th; but I was out of the city, and Dr. Van Meter treated her until my return on the 24th. when I again saw her. At that time I could detect an enlargement on the right side of the uterns, as large as a large orange, which was exceedingly sensitive to pressure. For three days the temperature ranged from 100° to 102° F. now believed the case to be one of extra-uterine pregnancy, and that rupture had probably taken place the 29th of June. The patient was sent to the hospital, and on the morning of the 27th of July a section was made. It was then found that rupture had occurred some time previously and suppuration had taken place. The pus was confined in the retro-uterine space by adherent coils of intestine and omentum: there were about three ounces of pus, having as distinctly a disagreeable feculent odor as that of an ischio-rectal abscess. In my opinion, Nature was making an effort to cure the patient through an opening in the rectum, and the process had advanced so far as to contaminate the pus from the rectum.

The sac was removed with difficulty on account of its friability. It was ligated, both at the uterine side and at the distal end of the tube, with separate ligatures of silk. The cavity was irrigated, a glass drainage tube inserted, and the wound closed. At the same time I felt certain that the pedicle lightures were necessarily contaminated, from the fact that the pus was turned out into the pelvic cavity, and the bleed-

ing was so free that we were compelled to ligate off the sac at once to control the hemorrhage before cleaning the cavity by irrigation or sponging. At the end of four hours the fluid removed from the tube had a distinctly feculent odor. In twenty-four hours the fluid removed through the tube contained feces. In thirty hours the patient's bowels were thoroughly moved, after which the drainage tube was washed out several times a day with peroxide of hydrogen. Feces came away per drainage tube until it was removed on the sixth day, and through the sinus until the fourteenth day. After that time no appearance of the objectionable material was detected. The sinus continued to discharge pus, with no indication of improvement, and on September 2d one of the pedicle ligatures was thrown off. After that there was no decrease in the quantity of pus, yet the patient was gaining rapidly in other respects, and was anxious to go home, which she did September 18th, and on the 19th the second pedicle ligature was cast off. The sinus closed October 5th, and the patient is able to do her own work. The fetus could not be found, yet there can be no doubt, from the sac and decidua here presented, that the case was one of tubal pregnanev.

# TRANSACTIONS OF THE NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, November 18th, 1891.

Egbert H. Grandin, M.D., Chairman.

#### VICARIOUS MENSTRUATION.

Dr. C. B. Kerley presented before the Section an Irish girl, age 25, who had a cicatrix over the cricoid cartilage on the left side, which would break and discharge blood to the amount of four to six ounces every twenty-eight days, or during the menstrual period. The flow from the vagina was very slight. She had borne one child, and during its carriage and four months during lactation no blood was discharged. The cicatrix would heal between the periods, to break out at the next. The last time the loss of blood took place from the month, and the patient thought it came from the trachea, but Dr. Rice had been unable to find any scar on laryngo-scopic examination.

Dr. C. S. Cole had then under observation a case in which, at some of the menstrual periods, the woman discharged blood mixed with the urine; and the Chairman had seen one similar case, and also two others in one of which the blood was from the nose, in the other from the umbilicus, very slight in amount, and probably oozed from the sudoriferous glands. Dr. Edebouls had seen a case of hematemesis at each period in a girl who had a double pyo-salpinx; and Dr. Wallace had seen a case of vicarious menstruation from the stomach which became one of normal menstruation after dilatation for stenosis of the uterine cervix.

# A CLINICAL RECORD: ECTOPIC GESTATION ? 1

Dr. C. S. Cole read the paper, in which he described a case of irregular and missed menstruation, colicky pains, and an extra-uterine tumor. Dr. Grandin coincided in the diagnosis that in all probability the case was one of extra-uterine pregnancy, and advised treatment by electricity. The patient remained in bed three weeks, and received fifty milliampères of the galvanic current on eight occasions, with intervals of from one to four days. At the conclusion the tumor had disappeared, the uterus had enlarged, and a normal gestation seemed to be present. Two months later examination seemed

still to confirm this opinion.

After reviewing some eases of this kind the writer offered the following conclusions: 1. There is considerable—may we not say incontrovertible?—evidence that astrong probability of ectopic pregnancy can be determined before rupture. 2. The diagnosis in the pre-rupture stage can, without operation, seldom if ever be absolute. 3. We are not justified in an immediate laparatomy before rupture, on a suspicion however strong, unless there are peculiar and unusual conditions that will not warrant delay. 4. Electricity has proved itself, in intelligent hands, comparatively safe, often efficient, and is, in the pre-rupture stage, worthy of careful trial. 5. We should be prepared to do a laparatomy at any time.

Dr. Vineberg thought the paper had covered the ground well. He recalled a case in which the attending physician had had the patient under observation for some time, and nothing was present until, somewhat later, Dr. Vineberg examined her and found a tumor, the size of a hen's egg, to the left of the uterus. The uterus was found by Dr. V. to be slightly enlarged, there were irregular hemorrhages and the tumor just mentioned, and he made the diagnosis of extra-uterine pregnancy. It turned out, however, to be a case of uterine

<sup>&</sup>lt;sup>1</sup> See also paper by Dr. Grandin, page 27.

gestation, which the patient got rid of about the tenth or twelfth week.

Dr. R. A. Murray thought it would be seldom the physician would have an opportunity to make a diagnosis of ectopic pregnancy before rupture or immediate danger of rupture, for the reason that women seldom consulted the doctor during the first two months of pregnancy. He did not think it absolutely necessary to condemn all cases to the knife as soon as a diagnosis was made. Electricity might be used, but one should hold himself in readiness to resort to laparatomy as soon as any indications for it arose.

Dr. H. J. Bolder thought that in the majority of cases the diagnosis of ectopic pregnancy could be made with considerable certainty. The galvanic current would kill the fetus, but he thought the patient would run less risk altogether by

submitting to laparatomy.

Dr. G. M. Edebohls had diagnosticated ectopic pregnancy in three cases before rupture, and believed this was as surely possible as to diagnosticate other pelvic conditions. Before

rupture and the third month he would use electricity.

Dr. Jarman said there was no doubt but what the diagnosis had at times been made before rupture had occurred, yet in the majority of cases this accident was the first thing to cause the patient to consult a physician. He was convinced that electricity might kill the fetus, but he was unable to understand how it could cause it to pass from the tube into the uterus. And why should the uterus not expel anything which might be forced into it by the tube? How could the softened, friable tube force a fetus into the uterus which was not softened?

He thought that if the patient were in a hospital, where there were trained assistants, any treatment might be carried out which one might prefer while waiting for time to positively confirm the diagnosis. Of course, under these circumstances, laparatomy could be resorted to at any hour. If the patient were outside, such a course would not be safe;

he would advise immediate laparatomy.

The Chairman thought Dr. Cole was wise in putting an interrogation point after the words ectopic gestation. Wise for more than one reason, but particularly because absolute proof of the existence of ectopic gestation was alone afforded through abdominal section. He could only say that when he saw the case with Dr. Cole there was a rational history of extranterine pregnancy and the physical signs. That there was a tumor there could be no question. Bimanual palpation could be made with the greatest ease. And electricity was used, a milliampèremeter measuring the current, and later there was no tumor; and the subsequent course, now two months,

had been that of uterine pregnancy. What could have been the tumor, if it were not that of an extra-uterine pregnancy? He was unable to say why the electric current should not have killed the fetus, unless, on account of its low vitality at this early period (about the fourth week), it was able to survive fifty milliampères. Perhaps, too, at this early period the vermicular power of the tube was sufficient to force its contents down into the uterus.

The Chairman also mentioned a case in which he made the diagnosis of ectopic pregnancy, treated the patient by electricity, which was followed by rupture into the broad ligament, by a hematocele, and the woman got well. It was possible in this case there had been rupture of the sac following

the use of electricity.

#### GLASS PESSARY IN THE VAGINA TWENTY-FIVE YEARS.

Dr. R. A. Murray said he had often found rubber pessaries in the vagina, where they had remained a long time, but he had never before met with a case in which a hollow glass ball, the size of a small orange, had remained in for twenty-five years. The woman from whom it was removed was 78 years old. He got it out of its encrusted position with some difficulty.

Dr. Murray also presented

#### THREE SUBMUCOUS UTERINE FIBROIDS

which he had removed without much difficulty in three different cases, at about the menopause, for symptoms of hemorrhage which had been mistaken by the attending physicians for the change of life. He emphasized the need of a careful examination in all cases where there was hemorrhage about the menopause.

Dr. H. G. Locke read a paper entitled

THE TREATMENT OF INCOMPLETE ABORTION AT ROOSEVELT HOSPITAL.

The different opinions prevailing concerning the proper procedure in cases of incomplete abortion had led him to suppose that the treatment adopted in one of the leading

hospitals would be welcome.

The class of cases coming to the hospital differed widely, as a rule, from those seen in private practice. The previous surroundings had been unsanitary, the abortion had too frequently been brought on by criminal procedure, and had usually to be looked upon as probably septic from the start. The results, therefore, could not be compared with those in private practice.

In a general way the gynecological and obstetrical world could be divided into two parties—the progressive and the

conservative or expectant.

In the cases of incomplete abortion appearing at the hospital, they felt that they could not guarantee safety without putting the uterus in a condition secure against infection. Another fact which influenced the treatment was that with these women the question of time was one of importance. In view of these considerations and the necessity for removing all doubt as to the condition of the uterus, it was evident that at the hospital the expectant plan of treatment could meet with no favor, and it was therefore sustomary to empty the uterus at one sitting. The only question was whether the abortion was preventable; and having answered this question in the negative, it was assumed that in every case there were still some remains of the product of conception within the uterus.

It was the rule to operate as soon after the admission of the patient as possible. Soiled clothes were removed; she was put to bed; if hemorrhage were not too profuse she was given a thorough bathing; the external genitals were thoroughly cleansed and disinfected; a specimen of urine obtained and tested; the date of pregnancy was obtained, also that of commencement of the abortion. The abortion was never assumed to be complete; nothing was taken for granted. The assistants prepared themselves as carefully as for a laparatomy. After scrupulous care in cleansing the patient, she was placed in the lithotomy position, the legs and feet were covered with towels wrung out of a solution of bichloride, etc. Careful examination was made for any acute or subacute disease which might modify the operation. With the patient in the dorsal position, they had perfect control over the uterus necessary for the manipulations which were to follow. The nurse held the speculum retracting the perineum. The vagina, cervix, and fornix were thoroughly scrubbed with soap and water and douched with bichloride solution. The cervical canal was cleared of mucus and disinfected. It was believed that from there inflammation of the lymphatics, when it arose, had its origin. Nothing was introduced into the uterus until the cervix was thoroughly cleansed. For dilatation, tents had been discarded, since they lacked the essentials of rapid dilatation and asepsis. If the cervix were sufficiently dilated to admit the introduction of a finger, removal of the uterine contents was at once begun; if not, they dilated with the metal dilator, the cervix being held down with a tenaculum, and the uterus steadied from above by the hand of the operator or of an assistant grasping it and making pressure through the abdominal walls. This prevented the cervix

from slipping off of the dilator. As soon as the finger would pass the cervix, a rapid examination of the cavity was made, a lion-jawed forceps was introduced, and remaining membranes, etc., removed. Masses which could not be handled by the curette or finger could be removed easily with this forceps, and with little or no danger to the uterus. It was also sufficiently powerful to crush and withdraw a fetus of the third month. The larger portion of the ovum having thus been removed, there yet remained shreds and fragments and adherent parts of the decidua. Carefully curette for their removal with the dull wire loop or Martin eurette. Especial attention was given to the cornua of the uterus. The enrette would not tell when all had been removed, and it was desirable then to introduce the finger again and fully explore for remaining frag-The cavity was then flushed with bichloride solution, through a double catheter. This not only secured antisepsis, but caused active contraction of the uterus and stopped hemorrhage. If hemorrhage continued, use tincture of iodine. If in more advanced cases contraction could not be thus secured, they introduced an intra-uterine tamponade of iodoform gauze which came in rolls. It was withdrawn part at a time, within twenty-four hours, by pulling on the projecting end, and after its removal a carbolized vaginal douche was given once a day, the patient remaining usually seven days. The first day the bladder was catheterized.

The author remarked that they treated a large number of cases of pelvic disease at Roosevelt, due to abortion, which

had somewhere been badly handled.

Dr. Cole thought that where abortion was inevitable it was desirable to empty the uterus of its contents completely as soon as possible.

Dr. Jarman was in sympathy with the method outlined in

the paper.

Dr. Murray thought the method practised at Roosevelt Hospital could hardly be applied in private practice, especially inasmuch as one seldom had the necessary amount of assistance. It would often be unnecessary to enter the uterus, and he would avoid doing so if hemorrhage had ceased and there were no mal-odor at the cervix after thorough cleansing of the vagina. The introduction of a vaginal tampon might be sufficient, or a tupelo tent with antiseptic precautions. He had never found it necessary to introduce a uterine tampon of gauze in order to induce contraction or control hemorrhage, no matter at what date the abortion may have taken place.

Dr. J. CLIFTON EDGAR thought that where the abortion was not complete at, for instance, the third month, forcible dilatation would result in retention of some of the membranes and necessitate curetting, whereas if the plan were adopted suggested by Dr. Murray, the vagina rendered aseptic and a tampon introduced, the ovum would probably come away without rupture, rendering subsequent curetting unnecessary. Where it was necessary to empty the uterus immediately, sometimes the ovum could be grasped with the forceps and be removed with the membranes complete, obviating the necessity for curetting or introducing the finger. He would feel that the

bullet forceps was safer than a tenaculum.

The Chairman thought that, under the limitations stated in the paper, of incomplete abortion, the method described was an ideal one for a hospital, but it was not applicable in private practice, except in the better walks of life. It was not always possible to have a nurse, some one to hold the speculum, another to hold the bullet forceps or tenaculum, and, so far as his experience extended, it was not necessary. He had seen many cases of abortion, and had lost none. As a rule he had had to do all himself—to give the anesthetic, dilate the cervix, clean out the uterus. He used hot water, but no germicides; he had found no need for the gauze tamponade before the fourth month, and if he should ever employ it he would leave the iodoform out. If the uterus were septic he would use the sharp curette and then throw in peroxide of hydrogen.

# TRANSACTIONS OF THE NEW YORK OBSTETRICAL SOCIETY.

[Abstract.]

Stated Meeting, November 17th, 1891.

The President, Clement Cleveland, M.D., in the Chair.

### UNILATERAL TUBERCULAR PYO-SALPINX.

Dr. George M. Edebohls presented a number of specimens, the first of which was a unilateral tubercular pyo-salpinx with secondary miliary tuberculosis of the peritoneum. The patient was a widow, aged 23, of good family history; came under his observation May 15th of the present year, complaining of pain, etc., for two months. A mass was felt in the abdominal cavity, which was found, on exploratory puncture, to contain pus. The pus was examined for gonococci and tubercle bacilli, but none were found. The lungs were normal. The diagnosis was that of pyo-salpinx of the left side, with adhesions to the omentum. Laparatomy revealed

miliary tuberculosis of the omentum; left tube and ovary the seat of tubercular pyo-salpinx; the right tube and ovary normal.

Of one hundred and seven laparatomies which he had performed, eight were for peritoneal or tubal tuberculosis. This was the only case in which there had been unilateral tubal tuberculosis.

DOUBLE TUBERCULAR PYO-SALPINX, WITH MILIARY TUBERCU-LOSIS OF THE PERITONEUM; SECONDARY OPERATION FOR TUBERCULAR INFILTRATION OF THE CICATRIX, LATER FECAL FISTULA.

The second specimen presented by Dr. Edebohls was removed from a patient aged 20, who, when she came under his care in April, 1891, was anemic and delicate in appearance. The uterus was embedded and immobilized by a mass on the right and also by one on the left. In the left mass the enlarged tube could be felt. Exploratory puncture revealed pus. The spleen was enlarged; there was slight pyrexia. The diagnosis was narrowed down to tubercular or gonorrheal pyosalpinx. The patient denied ever having had sexual inter-course; the hymen was intact. Tubercle bacilli and gonococci were not found in the pus. The first operation was an incomplete one, owing to the danger of losing the patient from hemorrhage in breaking up the dense adhesions. The hyperpyrexia continued. The patient was much emaciated. The fourth week a tubercular deposit took place in the abdominal sear, and a second laparatomy was undertaken about a month after the first. The patient improved, but tubercular infiltration of the skin returned, broke down, and a feeal fistula was established three weeks after the second operation. The patient was then in Dr. Wylie's ward at Bellevue Hospital.

SALPINGO-OÖPHORECTOMY FOR FIBROMA UTERI; INCIPIENT TUBER-CULOSIS OF THE TUBES AND OVARIES; TUBERCULAR ENTE-RITIS FOLLOWING THE OPERATION; ULCERATION AND PERFORATION OF THE ASCENDING COLON, WITH FECAL FISTULA.

Dr. Edebohls' third case was in a patient who when young had had ulceration of some of the glands. The menstrual flow became profuse, and the last two years had been almost constant in spite of most energetic local and general treatment. The appendages seemed normal. The uterus was somewhat enlarged, but no well-defined tumor could be discovered. As a last resort against ceaseless metrorrhagia he proposed salpingo-oöphorectomy, and operated May 31st, 1889. The operation was simple. Nothing was observed except a few miliary tubercles on the peritoneal covering of the ap-

pendages. The third day violent purgation came on spontaneously: there was colicky pain, increased pulse rate. The diarrhea continued until the patient's death, a month later. During this period she had from three to thirty soft movements daily. A fecal fistula formed at the upper end of the well-healed abdominal wound, and continued to discharge until death. The autopsy showed the peritoneum free from adhesions, except at the site of the fecal fistula, which led to an attachment of the colon to the abdominal walls. There were some tubercular ulcers within the intestine. No peritonitis, no fluid in the peritoneal cavity. The mucous membrane of the entire colon and several feet of the ileum were intensely congested; there were eight or ten ulcers in the ascending colon, one of which had perforated, establishing the fistula. The mesenteric glands were enlarged, and a number contained cheesy material. The pedicle was in good condition; the catgut ligature had been absorbed. The uterus contained a number of fibromata. He believed that the case was unique, in that death was due to intestinal tuberculosis following laparatomy.

SALPINGO-OÖPHORECTOMY FOR DOUBLE PYO-SALPINX; PRESSURE PERFORATION OF THE SIGMOID FLEXURE BY GLASS DRAINAGE TUBE; INTESTINAL FISTULA; CURE OF FISTULA BY ABDOMINO-VAGINAL THROUGH DRAINAGE; INTESTINAL OBSTRUCTION BY BAND; COLOTOMY; DEATH.

Dr. Edebohls' fourth and last specimen was taken from a patient on whom he operated in April for double pyo-salpinx. Pus discharged into the cavity. Gauze packing was used. The next day the gauze was removed and a glass tube was substituted. Four days later the end of the glass tube could be felt in the lower part of the sigmoid flexure, the walls of which it had perforated, forming a fistula. The glass tube was withdrawn and rubber substituted. May 31st the fistula had closed, and June 7th the abdominal wound had elosed. Two weeks later there were slight symptoms of intestinal obstruction, gradually increasing. Last movement of the bowel took place June 22d. The obstruction could not be overcome from below. June 25th he performed left inguinal colotomy, the gut being fastened to the walls and opened two days later. The patient died on the 27th. The post-mortem revealed the lower portion of the sigmoid flexure firmly compressed under the abdominal wound by a fibrous band originating from the tract of the drainage tube. The case emphasized one of the possible dangers of a rigid drainage tube—namely, ulcerative perforation of the intestine. He was confident his patient would now be living had he resorted to some other means of drainage. Secondly, it illustrated the danger of temporizing where there were symptoms of obstruction. At no time did this patient's life seem in imminent danger until within a few hours of performing inguinal colotomy.

Dr. Joseph E. Janvrin presented several specimens, the first of which was a

## CARCINOMATOUS UTERUS REMOVED BY VAGINAL HYSTERECTOMY

June 1st, 1891. He had assisted Dr. Peaslee in removing a large fibro-cyst of the uterus in this patient twenty-two years ago. The pedicle was ligated, the tumor removed, and the uterus dropped back. About eighteen months ago she began to have hemorrhage, and he found, on manual and microscopic examination, carcinoma of the body of the uterus. In removing the uterus per vaginam considerable difficulty was encountered, owing to the small size of the canal. It was necessary to enlarge the vulvar opening by an incision on each side. The patient made a good recovery. This was his twelfth case of hysterectomy by the vagina for carcinoma of the body or cervix, ten of the patients recovering. The specimen was of some interest in showing the cicatrix where the fibro-cyst had been removed twenty-two years ago. The woman was 62 years of age. A small intramural fibroid could also be felt, the case thus proving to be another in which malignant disease developed in a uterus containing a fibroid.

#### PRIMARY SARCOMA OF THE BROAD LIGAMENT?

Dr. Janvein's second specimen was obtained from a patient on whom he performed laparatomy November 3d, after a similar operation had been begun in another hospital but was abandoned because of the density of the adhesions and the presence of a supposed sarcomatous mass involving the appendages. After much difficulty Dr. Janvein removed the appendages, which he believed illustrated primary sarcoma of the broad ligament, but a microscopic examination had yet to be made by the pathologist. He called attention to a paper on malignant disease developing primarily in the folds of the broad ligament, which he had read at the last meeting of the American Gynecological Society. This patient died on the third day of broncho-pneumonia.

## CYSTIC OVARIES.

The third specimen consisted of the ovaries, both of which were cystic, and the tubes, which were the seat of slight catarrhal enlargement. The left ovary also contained a small

pus sac which ruptured into the peritoneal cavity. The adhesions were light. The operation was performed November 5th, and the patient made a good recovery.

Dr. W. GILL WYLIE said, with regard to the case of Dr. Edebohls which had entered Bellevue Hospital with a fecal fistula, that he had not yet operated for its relief. He had himself had three cases of fecal fistula follow the use of the drainage tube after laparatomy, and, as all had occurred in Bellevue Hospital, he was inclined to attribute the accident to the fact that there they were under the necessity, every six months, of training in a new house surgeon. He felt confident that the glass tube with a smooth end would not produce ulceration and perforation of the intestine, if it were properly managed, although it might do so if left in too long and allowed to press upon the gut. Further remarks on the subject of fecal fistulæ were reserved for the discussion on the general subject to take place later in the evening. But being asked how long he left the glass drain in, he said seldom longer than twelve to twenty-four hours. It was his rule to have the drain sucked out every two hours after the operation, and examined every half-hour for five hours; and if there were any necessity for reopening the abdomen for hemorrhage or other condition, it would show itself by this time. If there was much fluid, the tube was left in until Then, if the fluid was clear serum and there the next day. was no mal-odor, he substituted a tube of half the calibre. The peritoneum generally became shut off by exudates within twelve hours. After this had been left in, usually not longer than twelve hours, a very short glass drain might be inserted.

If blood or pus continued to come away, or there was odor, the drain was left in even as long as ten days, but this did not occur oftener than once in twenty or thirty cases.

## PORTABLE GYNECOLOGICAL TABLE.

Dr. W. R. Pryor exhibited the gynecological table devised by Dr. Foerster, which had the advantage of weighing only forty-eight pounds; was strong, being made of galvanized iron and steel; was suitable for Trendelenburg's posture; could be folded like a cot and taken to the patient's house.

## CASE OF EXTRA-UTERINE PREGNANCY TERMINATING BY ULCERATION INTO THE INTESTINE,

Dr. J. Lee Morrill read the history of the case. It occurred in a woman who was first married in 1882, and in 1887 noticed enlargement of the abdomen which was associated with amenorrhea. The physician who saw her made a diagnosis of abscess, which afterward burst into the rectum.

The patient regained her health at the end of a year. Some months afterward her husband died, and during her widowhood she got strong and fleshy. A year after a second marriage she complained of headache, pain in the back and side, irregular menstruation. She consulted Dr. Sprague in the fall of 1890, the chief symptoms being amenorrhea of two months and a half duration, nausea, and vomiting. The uterus was somewhat enlarged, and he told the patient she might be pregnant. December 16th she returned to Dr. Sprague, and had then become almost a skeleton, suffered much pain in the right side, had not menstruated; pulse 100, temperature 99° F.; the abdomen somewhat enlarged, uterus somewhat enlarged. Dr. Morrill saw the patient with him December 17th. Found a tumor as large as an orange behind and to the right of the uterus, very sensitive to the touch, fixed, non-fluctuating. As the woman was profoundly septic, he suggested an immediate operation. Dr. Coe was also called, agreed in the diagnosis, and an operation was performed a few days later, after the patient had been put in somewhat better condition. The tumor was found to be elastic but non-fluctuating; the tube on that side could not be found; the intestines were closely adherent to it. It was believed that, owing to the patient's extremely low condition, to go on and enucleate the tumor would cause death on the table. On the other hand, the tumor was so deep in the pelvis that it could not be drained above, and its relations to the posterior fornix were such that it was hazardous to puncture through the vagina. Therefore the abdomen was closed. December 25th Dr. Sprague was sent for, and found the patient in deep collapse and suffering from great pain. For some days there was elevation of the temperature and pulse, but the patient afterward gradually improved and left her bed April 5th, 1891. April 30th the doctor was sent for; found her in great pain; was told that at 5 o'clock she had awakened with an urgent desire to go to stool, that something passed which looked like a stick. On rectal examination Dr. Sprague removed a collection of fetal bones, which were then presented. The fetus evidently had lived to about the fourth month.

Dr. Morrill added that when he saw the patient the picture was simply that which all were familiar with in pyo-salpinx. At this date, even with the abdomen open, it was not possible to determine the presence in the pelvis of the fetal remains. So far as digital examination could determine, rupture had not occurred in this case into the rectum, but higher in the intestine. The case showed also that rupture of an extra-uterine pregnancy was not necessarily fatal, even at a somewhat advanced period.

This paper was discussed in connection with the topic for general discussion, namely:

THE PREVENTION AND TREATMENT OF INTESTINAL FISTULA AS A COMPLICATION IN LAPARATOMY.

DR. WILLIAM M. POLK said the treatment of fecal fistula occurring after laparatomy would depend upon the location of the opening in the gut. If it were situated high and were not extensive, it could be readily reached and closed. Where it was too low to be reached with the patient in Trendelenburg's posture, and there was no connection with an abdominal wound, the fistulous tract might be brought up to the anterior walls, iodoform gauze be introduced so as to insure encapsulation and shutting off from the general peritoneal cavity, then on withdrawing the gauze an ordinary fistula would remain which might be closed at any time. Where the opening in the gut could be reached—and he saw no reason why it could not, usually, by aid of Trendelenburg's posture—he thought it could be treated in the ordinary way, i.e., by suture.

Where there was a large rent higher in the intestine, we had to choose between establishing anastomosis and the old-fashioned operation of resection. He confessed to some doubt as to the propriety of resorting to anastomosis until more evidence had been adduced as to the length of time the artificial opening would remain patent. If the patient were to have a stricture at this opening within the next few months, or even year or two, one might better have taken the chances of doing resection in the first place. The great objection to resection was the length of time required to do the operation. Yet if the patient were in fair condition he thought he

would resort to this procedure.

The production of rents during laparatomy had been due largely to operating in the dark through a small opening admitting only one or two fingers, the intestine being injured

while thus tearing up adhesions.

Dr. H. T. Hanks said, concerning extra-uterine pregnancy, that probably only a small proportion of all the cases reached the surgeon. Women were so accustomed to bearing pain that any of ordinary severity would not drive them to the

physician.

As to fecal fistulæ following laparatomy, he thought we would not have so many in the future as in the past. Operators were learning to avoid the dangers to the intestine involved in breaking up adhesions through too small an opening. The glass drainage tube was an excellent instrument, but if it were not well looked after in the manner Dr. Wiley had suggested, it was liable by pressure to cause per-

foration of the gut. It was seldom necessary to leave it in longer than twelve to twenty-four hours. Unless there were positive indication, it should not be left in longer than six hours. He recalled two eases of fecal fistula following laparatomy in the Woman's Hospital, in one of which Dr. Bird made frequent irrigations with warm water and effected union of the opening into the rectum. In the other the fistula remained after the patient was discharged, but some months later she returned to him and stated that the fistula had healed of its own accord.

DR. H. MARION SIMS had had three cases of fecal fistula following laparatomy, all occurring between seven and ten vears ago. In the first two eases large multilocular ovarian cysts were removed which had extensive adhesions, necessitating the use of a glass drainage tube and also of gauze. The first two patients received his constant eare for a number of days, and finally the fistulæ closed. The third patient was operated upon by his father about a week before his death. A large dermoid of the ovary was found; the adhesions to the intestine were such that all the tumor walls could not be removed, and were stitched into the abdominal wound and a drain inserted, one into the tumor and one without. A fecal fistula formed which communicated with the sigmoid flexure. He kept the sac packed with gauze, as was the fistulous tract in the other two eases, and the patient did well until ervsipelas of the face set in and carried her off.

Dr. W. Gill Wylie said, in commenting upon Dr. Morrill's case, that whenever a patient came to him with a tumor in the pelvis the size of an orange, and he felt in any doubt about its nature, he did not hesitate to at once open the abdomen. He would all the more insist on an operation if there were any suspicion of extra-uterine pregnancy. If he did not think it safe to remove the tumor, he always found it possible, with the abdomen open, to safely puncture from the vagina.

Regarding fecal fistule, he had met with a very considerable number of cases the last two or three years in which a pelvic abscess had opened into the rectum. The treatment of these cases was the same as that of fecal fistulæ following laparatomy. If the opening into the gut were low, where it could not be readily reached, he left it, but enucleated the walls of the abscess, operating almost entirely with the finger nails. A drainage tube was introduced down to near the bowel, and if there had been much pus a strip of gauze was placed along the tube a few hours, so as to insure upper drainage of pus or intestinal finids. It was important to keep the rectum empty of gas or fluids, so that the opening might have a chance to heal, and with this object in view he introduced a glass or rubber tube into the rectum. In one of his cases

there were an abscess on each side and two separate openings into the rectum, yet the treatment just outlined caused a cure. If the opening were high, in a floating part of the intestine, it should be closed by two lines of sutures.

As to the cause, the majority of the feeal fistulæ had occurred where there had been pyo-salpinx, extra-uterine pregnancy, or a suppurative process of some kind. Where breaking up adhesions gave rise to the rent, it was, he thought, at a place where the inflammatory or suppurative process had

already practically broken the wall down.

Dr. Janvens said Dr. Morrill's case brought to mind one which he saw about nineteen years ago. The patient had not menstruated for several months, she had the usual signs of pregnancy, and he thought the pregnancy was entopic, yet there was severe pain at the left of the uterus which to-day would doubtless be attributed to ectopic gestation. She was seen several times by Dr. Thomas and Dr. Peaslee, and extrauterine pregnancy was not recognized. He did not see her again until about the ninth month, at which time the abdomen was much enlarged, there was tenderness over the left side, she was heetic. About a week later a fistulous opening formed into the rectum, through which the bones of a fetus which had died at about the sixth month were discharged.

Dr. Janvrin also referred to a case in which he caused a rent into the rectum about three inches from the anus while separating the attachments of a dermoid cyst. There was also a monocyst on the opposite, right side. He had much difficulty in closing the rent in the gut, on account of its almost inaccessible position, but, with the aid of reflected light and long needle forceps, finally succeeded, and the patient

made a good recovery.

Dr. A. P. Dudley thought the habit of operating through a small opening, breaking up adhesions in the dark, where injury to the intestine was liable to take place, should be abandoned. He had collected seventy-eight cases of fecal fistulæ following laparatomy, and knew of enough more to make up one hundred. Most of them took place within a week after the operation, none later than the fourth month. The sigmoid flexure or rectum was involved in thirty-one, the small intestine in seventeen; in thirteen the part involved was not named. The accident followed upon operations for chronic conditions oftener than for acute. In most cases Tait's operation had been performed. In forty-nine cases the drainage tube was known to have been used, and in twentythree the operator looked upon this as the direct cause. Extensive adhesions were present in sixty. Nature closed the fistula in thirty-nine cases. Secondary laparatomy was performed in eight cases, with success in only three. The kind of treatment would depend much upon the location. It occurred oftenest in the rectum, and here spontaneous cure was more likely to result than if the opening were in the small intestine.

Dr. J. R. Goffe referred to a case recently seen by him—one in which an abscess of the ovary had been removed and the patient returned home apparently cured, but three months later an abscess burst through the abdominal cicatrix which could not be permanently healed. Dr. Goffe finally made through drainage into the vagina, the patient being instructed to make irrigation. After some days she informed him that the water passed out through the rectum, and he found this to be so. On one occasion a catgut ligature was found to pass out by way of the vagina, and to this evidently the abscess had been due. It may have been infected before used or while being applied to the stump from which the ovarian abscess had been removed.

Dr. Edebohls had had four cases of feeal fistula following laparatomy. In the first there was tuberculosis of the intestine, feeal fistula following three weeks on the operation. In the second there were tubercular pyo-salpinx and tuberculosis of the peritoneum, feeal fistula three weeks after the operation. In the third case there were pyo-salpinx and ovarian abseess, with extensive adhesions, secondary sloughing, and feeal opening which closed after twelve days. The fourth case was one in which the drainage tube caused the fistula.

He agreed with Dr. Wylie as to the necessity for precaution in the use of the glass drainage tube. He preferred the gauze drain, and now kept it free from pressure by the lips of the abdominal wound by passing it through a glass spool with flanges which held the spool in the wound. He thought that in Dr. Morrill's case the contents of the sac might have been determined, after opening the abdomen, by aspirating with the needle. Bones being present, the needle would have impinged upon them and established the diagnosis.

Dr. George T. Harrison had met with one case of fecal tistula. It followed hysterectomy for myoma. The patient was taught to irrigate, and the opening finally healed. It was important, as Dr. Wylie had said, to avoid distention of the gut with gas, if one would have the opening heal kindly.

Dr. Waldo thought the drainage tube was likely to do

harm and should be discarded whenever possible.

Dr. Polk thought that where the rent in the rectum was extensive and could not be reached, it might be advisable to establish an artificial anns connected with the sigmoid flexure above.

Dr. Dudley mentioned a case which he reported a few years ago, and in which, being unable to reach the opening in

the gut low down, he freshened its edges, curetted the fistulous tract leading to it, and sewed the sigmoid flexure across to the top of the uterus, thus shutting off the part below, which healed by primary union.

Dr. Morrill reminded Dr. Wylie that he did advise an

operation at once in his case.

## Stated Meeting, December 2d, 1891.

The President, CLEMENT CLEVELAND, M.D., in the Chair.

THE LENGTH OF TIME SUTURES SHOULD BE LEFT IN THE CERVIX.

Dr. Ralph Waldo said that on one occasion he performed the double operation upon the cervix and perineum, and after two weeks removed the sutures from the cervix, but in so doing he injured the perineum with the speculum. Since then, in two instances, instead of removing the sutures after two weeks, he had allowed the patients to go home and be around. No harm had apparently resulted from this practice; the stitches had not irritated the cervix, and the granulation tissue so frequently present was not observed. He had given up the use of catgut in these cases, on account of the uncertainty attending its absorption. In the two cases referred to he had used silver wire and silkworm gut respectively. He desired an expression from the members regarding this prac-

tice of leaving in the sutures for so long a time.

Dr. G. M. Edebohls said that within the past two years he had rarely operated on the cervix alone, usually doing perineorrhaphy at the same time. For laceration of the cervix, and for suturing the raw surface left after amputation of the cervix, he had long used silkworm gut exclusively. He had used catgut in only five or six operations on the cervix, and had had no occasion to regret its use, although he preferred silkworm gut. He did not consider it a matter of much importance if the sutures were left in for as much as three months. In cases of ventral fixation performed at the same time as a trachelorrhaphy, where the uterus was high and he did not wish to draw it down, as would be required in removing other than animal suture, he had employed catgut. In one case, through an oversight, a silver-wire suture was left in the cervix, and was not discovered when he attended the patient in confinement about twelve months later. When making a pelvic examination on this patient three months after her confinement, he, for the first time, noticed the suture. It had done absolutely no harm.

Dr. A. H. Buckmaster had been in the habit of leaving in the sutures frequently for two months, and in one patient, who did not return for observation, they remained in place for a year and gave rise to no trouble. He had recently used silkworm gut, and had found that the irritation often caused by the end of the sutures could be effectually prevented by

clamping shot on them.

THE PRESIDENT used silver wire exclusively where he operated on the cervix alone, and he preferred it to other suture material, as with it there was no necessity to draw the uterus almost down to the introitus in order to tie it. When trachelorrhaphy was performed alone he removed the stitches after nine days, according to the usual custom at the Woman's Hospital; and where the combined operation was done the sutures were removed from the perineum at the end of fourteen days, and those from the cervix after about three weeks. Even at this time there is danger of injuring the perineum, and it is much better to leave them for five or six weeks. This cannot always be done in hospital, and it is not prudent for an institution to allow its patients to go away with the sutures still in the cervix—a lesson which the Woman's Hospital has learned by several adverse lawsuits. After a simple trachelorrhaphy in private practice, he allowed the patient to get out of bed after four or five days.

## INTESTINAL ANASTOMOSIS AND DAWBARN'S POTATO PLATES.

Dr. A. F. Cerrier said that in operating recently upon a cyst of the left broad ligament having many and firm adhesions, he accidentally tore the ileum completely across. was clamped and the tumor removed, after which he proceeded to repair the intestine as best he could in the emergency, using potato plates. These were inserted with considerable difficulty. At the close of the operation the woman was in very bad condition, although she had not lost much blood. The abdomen was irrigated and a drainage tube and iodoform gauze introduced. She died that night, the principal cause of death being shock. Examination after death showed that the intestinal wound was well closed. The plates used on this occasion were too large, and caused so much pressure as to seriously interfere with the circulation in the intestine. So far as he knew, this was the first time that these potato plates had been used on the living subject.

As this operation was performed on an intensely hot day last summer, he wished incidentally to raise the question of the effect of such weather on the prognosis in eases where

severe operations are to be performed.

The President said that about one year ago he had related to the Society the case of a young woman from whom he had removed the tubes and ovaries. The tube on one side was closely attached to the sigmoid flexure, and on endeavoring to separate it he made a ragged tear, in the gut and stripped up its serous covering for fully five inches. The gut was held up so as to prevent the discharge of its contents into the abdominal cavity, and then, without the use of plates, five inches were resected and circular enterorrhaphy performed. The

patient made an uninterrupted recovery.

Dr. G. A. Kletzsch referred to a case having retroversion and a small tumor on the left side. The uterus could not be replaced, and, after persevering but unsuccessful treatment, laparatomy was performed at the hospital. She was found to have a double ovarian hematoma. The sigmoid flexure was so firmly adherent to the posterior surface of the uterus that, upon the suggestion of Dr. Cleveland, it was decided to leave it connected with the uterus. The uterus was simply lifted up, and ventral fixation performed by means of two catgut ligatures passed through the round ligaments and fastened to the anterior abdominal wall just below the lower angle of the abdominal incision. The catgut was chromicized and warranted not to be absorbed under sixteen days. Union was complete, and, notwithstanding the dragging of the intestine upon the uterus, the uterus is still firmly adherent to the abdominal wall, and it is now over a month since the operation. The uterus was not abraded.

Dr. Edeborts thought that such catgut would be sufficient under ordinary circumstances to keep the uterus forward. He had performed a number of ventral fixations with silkworm gut by passing sutures through the entire thickness of the abdominal wall, across the uterus at a considerable depth, both above and below the origin of the tubes. Chromicized catgut he thought ought to be sufficient, as he had been in the habit of removing the sutures as early as the ninth or tenth day, and in every one of his cases the uterus had remained in anteversion, firmly attached to the abdominal wall. He had invariably abraded the anterior surface of the uterus.

DR. CURRIER considered silver wire preferable for ventral fixation, as it was less likely to become septic. He had obtained good results without abrading the anterior wall of the uterus, and he thought that in most cases the manipulation of the tissues was ordinarily enough to excite adhesive in-

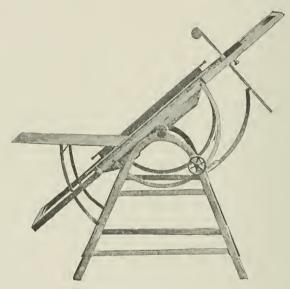
flammation.

The President had tried almost every kind of suture material, and had performed this operation in various ways. He preferred bringing up the uterus by the round ligaments.

CLEVELAND'S OPERATING TABLE FOR THE TRENDELENBURG POSTURE.

The President said that he had designed this table more especially for use in the Trendelenburg position. To secure

lightness and strength, it is made throughout of "angle iron," the top plates being fastened in such a way that they can be readily removed to be cleaned. Its height is thirty-five inches, and it is sufficiently strong to admit of a weight of two hundred pounds near either end, so that it can also be used for the ordinary plastic operations of gynecology. The table is made to swing in the vertical plane through a considerable arc, and, by means of a simple clamping device, can be firmly held at any desired angle. The patient's legs are covered with blanketing and fastened to the foot plate by means of straps which are attached to the table in such a way as to



Cleveland's Operating Table.

admit of considerable "play." The object of Trendelenburg's posture is not only to get rid of the intestine, but to secure perfect relaxation of the abdominal muscles. This can only be done when the thighs as well as the legs are flexed. This was the special feature of this new table. For making the abdominal incision and for the suturing he was accustomed to use the horizontal position. He considered the Trendelenburg position a distinct advance in abdominal surgery. When operating, he always used a sponge over the intestines.

DR. W. G. WYLIE objected to this position, on the ground

that the discharges gravitated towards the diaphragm.

Dr. Buckmaster thought by the proper use of sponges this position enabled the operator to more effectually prevent

the contamination of the abdominal cavity with the discharges. He thought prevention was most important, as it was next to impossible to clean out the abdominal cavity when contami-

nation had once taken place.

Dr. Wylle replied that by the method of abdominal irrigation which he had introduced about eight years ago, and which since then had been quite generally adopted, the peritoneal cavity could be thoroughly cleansed. In eight severe cases of peritonitis he had irrigated the peritoneal cavity by a stream of water from a fountain syringe carried to the very bottom of the cavity, and within forty-eight hours the temperature had fallen, and the patients recovered.

DR. BUCKMASTER remarked that such irrigation was objectionable, on the ground that it acted as an irritant and pro-

duced adhesions.

#### DYSMENORRHEA AND ITS TREATMENT.

A paper with this title was read by Dr. E. L. H. McGinnis. We had been taught that dysmenorrhea was only a symptom, but oftentimes it is solely for the relief of this symptom that patients come to us. An examination of such cases shows one of the following conditions: (1) Chlorosis or a highly nervous temperament, these two conditions being frequently associated; (2) an unhealthy condition of the uterus; or (3) inflamed ovaries. The first thing is to determine which of these conditions is present. After proper classification and diagnosis good results may be expected in most cases, were it not that methods of education and the demands of society offer serious obstaeles. A young lady, 26 years of age, came to him last November, complaining of severe pain in the pelvis and back and of general malaise. The establishment of the menses had been apparently delayed by hard study, for they did not appear until she was 17 years old, and then shortly after graduating from school. The flow recurred regularly every twenty-eight days; but for a short time before she came to him she had been suffering from dysmenorrhea, and this was growing steadily worse, so that sleep and appetite were affected. Examination showed nothing abnormal in the ovaries or uterus. She was given iron, calisaya, and the hypophosphites, and directed to come back one week before the next menstrual period, for electrical treatment. At that time she was given daily treatments with the galvanic current, applied through electrodes placed on the abdomen and beneath the lumbar region, each sitting lasting about eight minutes. This time the menstrual flow was attended by only moderate pain. Thinking that better results would follow the application of galvanism on alternate days throughout the month, this was done, with the result of enabling her to pass this second period with only slight discomfort. Since then there has been a steady improvement also in her general health.

Cases of the second class might be produced by any condition of the uterus by which the passage of the ovum through the canal was rendered abnormally difficult; and the most common of these conditions were anterior and posterior displacements, polypoid growths, and endometritis. As the local applications usually employed bring no relief, resort is had to anodynes with all their dangers. Pessaries, by correcting displacements, will cure some cases of dysmenorrhea, and operations for the removal of polypi may produce a like result; but where the dysmenorrhea is dependent on endometritis or metritis, nothing, in the experience of the author, had equalled the application of the galvanic current according to the method of Apostoli. In brief, this consists in giving an antiseptic vaginal douche, and then introducing the positive electrode to the fundus of the uterus, using the finger in the vagina as a guide. If this be not done with the utmost gentleness, it is probable that the existing inflammation will be increased, and, in addition, a peri-uterine inflammation will be excited. The negative pole is attached to a clay electrode on the abdomen, and the current is turned on very gradually up to the point of causing moderate discomfort. This usually represents a strength of about thirty milliampères, and at first this should be continued for from three to five minutes, when it should be as gradually turned off. At subsequent séances both the strength of the current and the length of application may be increased. Oöphorectomy has hitherto been considered the only effectual treatment for this distressing condition, but the treatment by the galvanic current has even greater claims for recognition. When it is considered that the removal of the ovaries destroys all prospects of maternity, is attended by tedious convalescence and by many dangers, those who ardently advocate the use of electricity should not be blamed for making an honest effort in behalf of conservative gynecology.

Where the ovaries are the cause of the dysmenorrhea, he had been very successful with the following method: Flat and very pliable electrodes of soft metal, connected with a faradic battery, are placed over the inflamed ovary and beneath the lumbar region, and as strong a current as can be borne gradually turned on for six or eight minutes. After a few treatments of this kind a ball electrode, connected with the positive pole, can be borne on the abdomen. The applications should be made three times during the week preceding the menstrual flow, and, if possible, the patient should

rest for some time after each application. It is important to

prohibit coitus.

In conclusion, he did not wish to be understood as considering electricity as a panacea for all the conditions described, but he had obtained better results with it than with any other method of treatment, and its safety and easy application recommend it to the conservative gynecologists, who should give it a fair trial before condemning it.

Dr. E. H. Granden thought that in chlorotic cases local treatment was uncalled for until after a thorough trial of the usual internal remedies, because drugs were usually sufficient, and the patients were commonly young, unmarried women, who should not be subjected to a vaginal examination with-

out good cause.

In the vast majority of cases dysmenorrhea was dependent upon a diseased condition of the endometrium, and the treatment should vary with the grade of the endometritis. If the case were one of simple catarrh of the endometrium characterized by slight discharge and no increase in the menstrual flow, galvanism, applied with the positive pole internally. would cure the endometritis and lience the dysmenorrhea, Where the dysmenorrhea was dependent upon an endometritis associated with menorrhagia, he had formerly used electricity, but he had now abandoned this for the quicker method by divulsion, curetting, and cauterization with pure phenic acid, under anesthesia. The necessary drainage after such operations he had found was best obtained by the introduction of a gauze tampon in the uterus. He preferred this gauze to any form of grooved stem, because the uterus was more tolerant of it, it was more certain to give good drainage, and the patient could be safely allowed to go around while still wearing the gauze. He had left it in as long as fifty hours without doing any harm, and it remained in place. The canal is kept open in this manner until the next menstrual period, and, if properly carried out, this treatment will result in a cure.

When the dysmenorrhea was dependent upon tubal or ovarian trouble, he had relieved the dysmenorrhea best by the use of fine wire faradization with bipolar electrodes. Such patients were, of course, not cured, but they were so

much relieved that they were perfectly satisfied.

Dr. W. G. Wylie thought the author's remark about the passage of the ovum was rather confusing, as ovulation might occur at any time during the month. As the result of a very large experience, he had come to the conclusion that severe dysmenorrhea almost always means a hyperesthetic and abnormal condition of the tissues at or above the os internum,

as could be easily proved by the expressions of pain elicited when a uterine sound was passed in such patients up to this point. In eases of ovarian disease uncomplicated by disease of the uterus, the menstrual flow relieves the pain, and hence he could not understand what was meant by dysmenorrhea due to disease of the ovaries, except where the ovarian disease is complicated by endometritis. When he first began the use of dilators it was considered very radical treatment, and the treatment by divulsion, curetting, and the application of pure carbolic acid followed by drainage, was a method which he had long advocated, but which until recently had not been generally accepted. Imperfect development is really the cause of dysmenorrhea in the majority of cases, and in such cases the uterus cannot be safely divulsed sufficiently to allow of the introduction of gauze into the uterus. The divulsion often causes a very deceptive elongation of the cervix which makes it appear that the gauze is in the uterus, when in reality it is only in the cervical canal. This is proved by the fact that the first uterine contractions dislodge the gauze. Suitably curved hard-rubber tubes, about the size of a lead pencil, can be readily introduced into the uterine cavity, and are held firmly in position even after several days. Nine cases out of ten should be cured by this treatment. Electricity, when used as a stimulating and not as a destructive agent, might prove beneficial by assisting development.

Dr. J. H. Gunning said he could not agree with Dr. Grandin as to there being no necessity for local treatment in the cases of chlorotic origin, as he had just seen a case which had proved obstinate when treated by the usual drugs, but which yielded promptly to the combined action of electricity and these remedies. He had obtained beneficial effects in the second class of cases with milder currents—five to ten milliampères—and a bipolar intra-uterine electrode. The strength of the current was greater in proportion to the hardness of the tissues. He preferred to use the negative pole at the fundus, gradually withdrawing it during a period

of five minutes.

A Molesworth dilator could be passed in as far as desired, dilatation effected, and then a piece of gauze introduced through the tube by means of the probe which accompanies the instrument. That the gauze is really in the uterine cavity is shown by the fact that uterine contractions only serve to hold it more firmly in place. The gauze seemed to give good drainage. It was removed on the second day, and the patient allowed up on the third day. Where the dysmenorrhea was due to ovarian trouble and the patients were not fleshy, he applied a strong faradic current from the

secondary coil, using a bipolar vaginal electrode placed as close as possible to the ovary. In fleshy patients he preferred to use the galvanic current, using two electrodes in the manner described by the author. If electricity were used as persistently as the old-time treatment with iodine, he was sure the results would be very gratifying. In his opinion, dysmenorrhea was really a neurosis dependent upon some derangement of the sympathetic nerve.

Dr. Buckmaster said that while in many cases of dysmenorrhea it was easy to find diseased conditions of the ovaries and tubes, in others a definite disease could not be made out, but the patient's health was bad and the pain intense. In such cases, of course, the selection of the appropriate plan of treatment was more than usually difficult and uncertain. Anything which would carry these patients over the menstrual period without resorting to anodynes was a valuable aid, and hence the method of treatment advocated in the paper demanded our serious attention.

Dr. Currier was not willing to admit that there was no dysmenorrhea associated with disease of the ovaries, for there were unquestionably cases in which a certain amount of hemorrhage took place into the Graafian follicle previous to its rupture, causing great tension and pressure upon the peripheral ends of the nerves, and consequently severe pain. Any condition of the tubes which would prevent them from contracting and performing their share in discharging the normal quantity of menstrual blood, would give rise to dysmenorrhea. He did not agree with Dr. Wylie in the opinion that most cases of dysmenorrhea were due to causes located at or above the os internum, for he had seen marked cases of dysmenorrhea where, after discission of a pinhole os and dilatation of the cervical canal, the pain was relieved.

He desired to emphasize what had been said on the subject of avoiding local treatment in young girls until other means had proved unavailing. He had found the usual tonic treatment, when aided by a proper attention to diet, exercise, and the general habits of life, eminently satisfactory. This was

an instance of mechanical dysmenorrhea.

His own experience with electricity in these cases had been confined to the use of the faradic current by the bipolar

method, and this had often given relief.

Dr. McGinnis, in closing the discussion, explained that his reason for using electricity in chlorotic girls was chiefly for its anesthetic effect, although undoubtedly it aided the constitutional treatment. He was heartily in accord with those who had spoken against local treatment for young girls, and it was mainly to avoid internal applications that he had adopted the plan of using the two external plate electrodes.

# TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

Wednesday, October 6th, 1891.

J. WATT BLACK, M.D., President, in the Chair.

Specimens.—Dr. Playfair for Dr. Kenyon: A Double Monster. Dr. Hayes: (1) Dermoid Cyst; (2) Large Polypus.

THE INFLUENCE OF PURPURA HEMORRHAGICA UPON MENSTRUA-TION AND PREGNANCY.

Dr. John Phillips read a paper on this subject, in which, after showing the difficulty in defining the subject, he gives the reasons for the more common occurrence of the affection in females than males. He considers the subject under two headings: 1. The influence of purpura hemorrhagica during menstruation and the non-pregnant condition. 2. Its influence on the pregnant condition.

1. Under the first heading a typical case is related in which menstruation was seriously affected and death ensued. Two other cases of a somewhat different nature, but not fatal (Puech, Wetherill), are also detailed. A few remarks on other

varieties are made and various conclusions drawn.

2. Under the second heading six cases are recorded, all fatal; and another under the author's care which recovered.

The first three cases (author, Puech, and Kezmarszky) are grouped and discussed together for reasons given; the next four, Dohrn (2) and Wiener (2), are similarly treated. The first three are considered as cases of purpura hemorrhagica very little modified by the pregnant condition; the last four present certain peculiarities in the appearance of the rash and general symptoms.

The hemorrhagic exanthemata (measles, scarlatina, and smallpox) are shown to simulate closely the disease under consideration, but the differences existing are pointed out.

The part played by septicemia or septic influence, when purpura hemorrhagica complicates pregnancy, is discussed.

The following conclusions are drawn:

1. That the prognosis in these cases is extremely grave, the

large majority proving very rapidly fatal.

2. That death may be due to post-partum hemorrhage or some condition allied to septicemia.

3. That abortion or premature labor inevitably takes place during the course of the disease.

4. That certain modifications of the rash, which are not ob-

served in the non-puerperal condition, may appear.

5. That the disease is not hereditary, but is a potent cause of intra-uterine death.

Dr. Herman said that he had had one case under his care. The uterus was swabbed with a styptic and the hemorrhage stopped; iron was given, and her anemia improved. She had a fresh erop of purpuric spots at several subsequent menstrual periods, due, he considered, to the increased vascular tension which accompanied menstruation. A case which he considered one of ordinary purpura accidentally coinciding with absence of uterus had been published as an example of vicarious menstruation. He objected to the statement that we were

ignorant of the nature of septicemia.

Dr. Gibbons regretted the absence of details regarding the condition of the blood and tissues. He gave details of a case under his own care in which he had found the red blood corpuscles exceedingly pale; the majority of them contained numbers of round, black granules. They were most numerous when the disease was at its height, and when the patient was quite well none could be found. The number of red cells was greatly reduced, whilst there was an excess of white corpuscles; the hemoglobin fell to thirty per cent, rising to sixty per cent at the end of the disease. He believed that the primary morbid condition lay in the capillary and other small blood vessels. Supporting the septic origin of purpura, he quoted a case which he had published where the disease had followed the drinking of milk containing pus.

## Wednesday, November 4th, 1891.

## J. WATT BLACK, M.D., President, in the Chair.

Specimens.—Dr. Cullingworth: (1) Sarcoma of Ovary; (2) Suppurating Ovarian Cyst; (3) Seven Cases of Pyo-Salpinx. Dr. Herman: (1) Hydro-Hemato Salpinx; (2) Hypertrophy of the Decidua. Dr. Leith Napier: (1) Suppurating Dermoid Cyst; (2) A Macerated Fetus. Dr. Shaw Mackenzie: Suppurating Dermoid Cyst. Dr. Handfield Jones: Fibroid Tumor of the Uterus. Dr. Graily Hewitt: Case of Abortion showing the Amnion passing through the Chorion. Dr. Butler Smythe: Dermoid Cyst.

## SPECIMEN OF SPONDYLOLISTHESIS.

The report of the committee on this specimen, exhibited in the April meeting of the Society, 1891, by Mr. J. H. TARGETT, was read.

#### CHOREA GRAVIDARUM.

A paper on this subject, by Dr. F. J. McCann, was read. The author detailed six eases of chorea gravidarum, and gave an account of the modification of the disease during

pregnancy.

The disease is subdivided into three different forms:
1. True chorea gravidarum. 2. Hysterical chorea gravidarum.
3. A mixed form. The symptoms of true chorea gravidarum are given in full, special attention being paid to the influence of quickening, of the fetal movements, and of peripheral stimuli, including the influence of suckling.

Age.—Chorea seldom occurs between 18 and 30, except

during pregnancy.

Number of Pregnancy.—It is commonest during a first pregnancy, true chorea seldom if ever occurring for the first time during a second or subsequent pregnancy, unless there has been some cause in the interval, such as rheumatic fever, to account for the supervention of the attack.

Period of Pregnancy.—In the majority of the cases the

disease begins during the third or fourth month.

Etiology.—Most important is a previous attack of chorea, of rheumatic fever, or a distinct hereditary rheumatic history. Epilepsy and other disorders of the nervous system may be mentioned, together with fright, mental emotion, and anemia.

For the production of chorea three factors are necessary:
1. A hereditary predisposition to nervous excitability.
2. A blood change or "blood state."
3. Exciting causes. During pregnancy a change exists in the nervous system and in the blood which favors the action of the factors previously mentioned; in addition, the irritation caused by the fetal movements plays a minor part in aggravating the disease.

Seat of the Lesion.—In severe cases the motor cortex, the intellectual centres, and the spinal cord are involved, the last being a secondary affection; in slight cases, the motor cortex

only.

Duration of Pregnancy.—In the absence of complications, this depends entirely on the severity of the disease. If severe, it is very apt to lead to abortion or premature labor; in slight cases, pregnancy progresses favorably.

Result to Mother.—In the majority of the cases, recovery; in others, death; mania, which may persist; delirium, or

paralysis.

Result to Child.—Depends on duration of pregnancy. If delivery at term occur, risk to child is not greater than in a normal labor.

Period of Cessation of Choreic Movements.—It is shown that, although after delivery the choreic movements diminish in intensity, in none of the cases observed by the author did they cease entirely, and in one case they continued for five

months after labor.

Recurrence.—In cases where chorea has occurred in child-hood a recurrence is almost certain to take place during pregnancy. Chorea gravidarum appears to resemble ordinary chorea, in that relapses may or not be more severe than the first attack. If chorea has occurred during childhood, it is more apt to appear in successive pregnancies; and the younger the patient is during the first pregnancy the greater the liability to recurrence.

The relation of chorea to menstruation is discussed. Cases of so-called post-puerperal chorea are described and commented upon. The diagnosis, prognosis, and treatment are given in detail. A summary of the literature of the subject

is added.

Dr. Herman saw no reason for attributing chorea to a blood change. One-sided phenomena like those of chorea must be due to change in one side of the brain. There might be some blood change in chorea, but, if so, nothing was known about it. He found it difficult to accept the author's assertion that "in cases where chorea has occurred in childhood a recurrence is almost certain to take place in pregnancy." He thought the great thing in treatment was food, and the best sedative alcohol.

Dr. Playfair thought the subdivisions were not the author's, but were taken from a book. He did not think they were clinical. A choreic patient who was essentially a neurotic might show certain symptoms which might fairly be described as hysteric, but that did not justify us in calling the complaint hysterical chorea. He objected also to the term maniacal chorea being applied to puerperal choreic patients

in whom insanity had shown itself.

Dr. Horrocks said the chief guide in prognosis was the temperature. So long as the temperature remained normal it mattered little how severe the chorea might be; but as soon as pyrexia began there was danger. He asked if observations

had been made on the temperature.

Dr. Champneys said that in a disease like chorea, in which the affection was partly mental, it was impossible to say where chorea ended and insanity began. He would prefer the term "maniacal chorea," used by the author, to that proposed by Dr. Playfair, "chorea and mania."

Dr. McCann, in reply, thanked the Fellows of the Society. He stated that chorea was not entirely a blood disease;

several factors must be considered in explanation of the disease. As to recurrence during pregnancy, he pointed out that many of the slight cases might be overlooked. Authorities were agreed that a form known as hysterical chorea could be differentiated from the true disease, and that mania developing as a consequence of a severe attack of chorea gravidarum was quite distinct from the ordinary puerperal mania.

## ABSTRACTS.

1. Rosinski: Gonorrheal Affection of the Mucous Membrane of the Mouth in the New-Born (with two colored plates) (Zeitschrift für Geburts. und Gyn., Band xxii., Hft. 1 and 2, 1891).—R. was led to study this subject by observing that the literature on diseases of the mouth, especially in the new-born, was very indefinite. In former years all affections, whether mild or virulent, were called aphthæ. Another important consideration in taking up this subject was the fact that the progress of the gonorrheal inflammation upon the mouth can be seen and thus studied much more satisfactorily than when occurring in other situations, and thus he hoped to throw more light upon the subject.

The disease certainly occurs infrequently, nor does it seem to produce any serious results, yet a careful study of it seems

well worthy of consideration.

The manner of carrying the infection is probably like that in gonorrheal conjunctivitis, by the fingers; or, if a conjunctivitis exists, it may be through the nose. This theory seems more rational than to believe that there is a general gonorrheal infection, and that the gonococci are carried through the circulation to the mucous membrane of the mouth.

The symptoms of the gonorrheal inflammation are in general redness, swelling, dryness, increased amount of secretion, beginning with great severity and progressing rapidly. These symptoms were all observed in adult cases, in most of which the gonorrheal inflammation was due to infection caused by having intercourse per os. There are no recorded cases of the affection in the new-born.

The author next proceeds to give a careful history of five cases, but, as the general characteristics of all were alike, a résumé of only one will be given. The child was born on the 15th of January. Mother 26 years old; six children. Since the 18th of June of the previous year the mother had

had a purulent vaginal discharge. The genitals felt irritated, and she noticed a burning when urinating. The child was born on the street and carried to the clinic. Examination of mother showed the presence of small condylomata upon the labia majora and minora, and the presence of a purulent discharge. A diagnosis of generate was therefore made.

The child was well until the 19th of January, when a gonorrheal conjunctivitis developed. On the 23d an affection of the child's mouth was observed, having characteristics which were entirely unfamiliar. A gonorrheal inflammation was suspected, and this was substantiated by a bacteriological examination. On the 23d a careful examination of the mouth revealed the following: Mucous membrane of lips and cheeks normal; where it passes over the alveolar process it has a bluish color. The alveolar process of the superior maxilla is covered with a whitish-yellow line about two centimetres wide and running parallel to the outer border. On the under jaw the same condition is observed. On the upper jaw the plaques of Bednar are covered with a yellowish-gray coating. The same condition is found on the back of the tongue, beginning about two centimetres from the border and covering about one-third of the entire surface of the tongue. Its color is white at the periphery, whereas in the centre it has a dirty vellowish-gray color. Under surface of tongue not affected. Wherever the coating has a yellowish color, small purulent masses can be rubbed off, and underneath a white surface becomes visible. Other places cannot be scraped off. Mucous membrane of mouth is not reddened, nor is there increased secretion. Child takes the breast and is apparently perfectly

January 24th: Affection progressing rapidly. The coating has a smeary yellowish-gray color and has spread along the borders of the jaw. No apparent change upon the tongue.

January 25th (see Fig. 2, Plate I.): The affection has the same border line upon the tongue. It consists of small islands about the size of a pin's head. The coating upon the free border of the alveolar process of the lower jaw has a distinct demarcation. Anteriorly it is about five millimetres wide. Upon the plaques of Bednar the coating appears in the form of a distinct figure. The anterior border of the coating corresponds to that point where the posterior border of the palatal process of the maxillary bone meets the anterior border of the horizontal lamina of the palate bone. The posterior lateral border corresponds to the position of the hamulus pterygoideus. Color of coating dirty yellowish gray. Amount of secretion, swelling, and redness of mucous membrane not abnormal. Child's condition good.

January 26th: Condition not much changed. The inflam-

matory redness along the border has spread more over the alveolar processes of the upper and lower jaws. Secretion from mouth examined; reaction feebly acid. Under the finger nails of both hands small purulent crusts can be seen; not so upon the toes nor on any other part of the body.

January 27th: Pathological changes in the mouth appear to be receding. Borders of the coating thinner and more transparent, especially along the periphery of Bednar's plaques. Tongue unchanged. Secretion from mouth gives acid reaction before nursing; directly after nursing, neutral. Stools somewhat diarrheal.

January 28th: Thickness of coating diminishing; most marked upon the tongue and around the frenum. Redness along the border is also observed upon the tongue. Secretion

muco-purulent reaction neutral.

January 29th: Inflammatory redness becoming more and more prominent along the line of demarcation. Along the alveolar process of the upper jaw the coating is only about one to one and one-half millimetres broad. The coating upon the plaques of Bednar has an oval shape. At the circumference it is surrounded by a red rim from two to three millimetres wide. Upon the lower jaw only small lines can be seen, covered with a whitish secretion. Pus still covers a portion of the frenum, and it has a distinct red border around it. Tongue coated with pus. Secretion muco-purulent and more profuse than normal; reaction neutral. Diarrheal stools.

January 30th (see Fig. 3, Plate I.): Healing process progressing rapidly. Along the free border of the upper jaw a thin secretory coating can be observed only in three places: one on the right side near the molar region, and one on the right and left sides corresponding to the premolar region. Coating upon plaques of Bednar has become more circumscribed. In the centre of the coating, which has now assumed a whitish color, a funnel-shaped defect in the tissues can be seen, this being confined to the epithelium. Coating

#### EXPLANATION OF PLATE I.

## EXPLANATION OF PLATE II.

Fig. 1.—Section through the mucous membrane of the alveolar process of the inferior maxilla in Case I.

Fig. 1.—The normal buccal cavity of a child a few days old. Plaques of Bednar and yellowish gray coating upon the tongue.

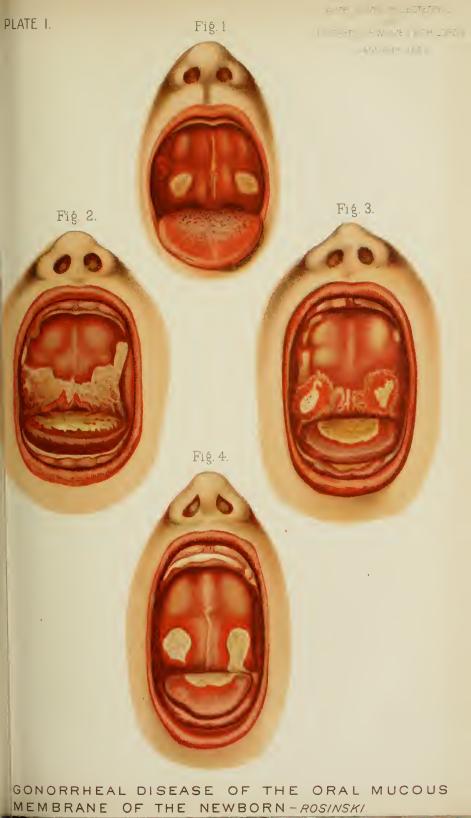
Fig. 2.—Mouth of Case I., third day of the disease.

Fig. 3.—Mouth of Case I, during healing process.

Fig. 4.-Mouth of Case II., second day of the disease.

Fig. 2.—Section through the mucous membrane of the tongue, Case I. Papillæ.

Fig. 3.—Section through the mucous membrane of the tongue, Case I.





upon frenum less marked; zone of redness more intense:

Secretion more than normal, neutral.

January 31st: Upon border of upper jaw, in right premolar region, a small spot can be seen. Both plaques of Bednar are smaller. Lower jaw clean except upon frenum. Secretion increased. Reaction before drinking, feebly acid; after drink-

ing, neutral.

February 1st: Alveolar processes free; only those places where the affection lasted the longest are more reddened than normal. Bednar's plaques smaller. In the centre small defect in the tissues. Secretion neutral; amount normal. Stool less diarrheal. February 2d: Spot upon the frenum smaller. Bednar's plaques reduced in size, have a yellowish-red appearance, show a small spot with central epithelial defect. Coating upon the tongue dirty brown. Secretion normal; reaction neutral. February 5th: A spot can be seen upon the frenum about the size of a pin head and having a grayishred color. Coating on tongue is gravish, dry, and crust-like. Secretion normal in quantity; reaction feebly acid. Stool diarrheal. February 7th: Mucous membrane of mouth normal red color. Secretion normal. Small epithelial defect on Bednar's plaques, as also upon the frenum. Coating upon tongue disappearing slowly. Reaction of secretion feebly acid. February 10th: Coating upon tongue gray and dry; all other affected parts have assumed normal appearance. Secretion feebly acid. February 15th: Coating disappearing slowly. Secretion feebly acid. February 16th: Small piece of membrane excised from base of tongue; bled only slightly; piece used for examination. February 20th: Coating upon tongue is grayish red. Secretion feebly acid. February 25th: All remains of coating have disappeared. Tongue looks normal.

A bacteriological examination was made of the secretion from the mouth. It showed a mass of pus cells filled with gonococci. In the epithelial cells, which were few in proportion to the number of leucocytes, only a few gonococci were found. Gonococci in great number were also found in masses of various sizes. As healing occurred the number of gonococci rapidly diminished. When the child was discharged from the clinic none could be found. Besides gonococci, streptococci, staphylococci, sarcinacocci, and a short bacillus were found. The secretion from the eyes was also examined, but in this gonococci alone were found, and these usually in pus cells. The pus from the nose also showed pus cells filled with gonococci. The crusts under the finger nails did not show the presence of gonococci.

In all of the cases (the histories of the other four being much the same as the one just given) it could be demon-

strated that the infiltration and destruction of the tissues were confined to the upper epithelial layer during the first few days, and that later it extended to the papillary bodies. A microscopical examination of excised portions substantiated this observation.

Careful bacteriological examinations were made to demonstrate positively that the micro-organism was the Neisser gonococcus, and comparisons were made between the specimens obtained from the secretions of the mouths of the five cases and the secretions from their eyes, the vaginal discharges from the mothers, and the pus from an acute attack of gonorrhea occurring in a young man. All of the methods adopted, both as to staining and in making cultures, always gave the same results, so that it could be definitely stated that the micro-organism in every case was the gonococcus.

From an examination of the reported cases it would appear that the generrheal inflammation only affects the superficial layers, extending to the epithelial layer, but not involving the deeper tissues. Ocular inspection showed that the affection only involved the epithelial layer, and that when regeneration of the epithelium took place the disease terminated. An invasion of the connective-tissue layer was never observed, nor after a cure was effected was there any cicatricial

tissue formed.

It was with great difficulty that proper stainings could be made to show the presence of gonococci in the pieces of membrane that were excised. Stainings were made with a watery solution of carbolmethylin blue, and decolorized in alcohol to which a few drops of acetic acid had been added. A microscopical examination of a specimen thus prepared shows in its upper portion a dark orange-green colored network, which is a mass of exudation, in the meshes of which we see white blood corpuscles and epithelial cells, with the nuclei deeply stained. Here the tissues are not transparent enough to see any bacteria. Lower down the nuclei and the cell membrane are distinctly marked; the color is light blue. The epithelial cells are swollen and show signs of degeneration. Between these, round cells can be seen. The intercellular connecting material is wider than normal, especially where the cocci are present. The connective-tissue stratum is filled with lymph-The cocci are always arranged in rows, and are to be seen in the intercellular connecting material between the cells (see Fig. 3, Plate II.). The cocci were very rarely found to be intracellular in the tissues, but usually so in the secretions.

The reason why the affection is seldom seen is, as was demonstrated by Bumm, that gonorrheal inflammation usually attacks membranes lined with cylindrical epithelium, but LATE II.

GONORRHEAL DISEASE OF THE ORAL MUCOUS



very rarely membranes lined with pavement epithelium. The affection in new-born children has in all probability been seen in cases other than those reported in this article, but it was

not recognized as such.

The suspicion that in these cases the affection was gonorrheal arose from the fact that there existed a gonorrheal conjunctivitis. In all probability the affection has been mistaken for aphthe, for it seems to have the same favorite situations. There can be no doubt that although the affection is rare in the new-born, still it occurs much more frequently than in adults. This can be explained by the fact that the epithelium is much more delicate and less resistant to the invasion of the cocci than is the adult epithelium. The affection in all the cases was found to be entirely confined to the following locations: Upon the anterior two-thirds of the tongue; upon the plaques of Bednar, on the hamulus pterygoideus and from there running along the ligamentum pterygo-mandibulare, passing over to the lower jaw; upon the free borders of the maxilla and mandibula, especially in the anterior portions; in three cases upon the rhaphe, and in one case upon the gingivo-labial fold of the inferior maxilla. Microscopical examinations of tissues removed from new-born children who died within the first ten days of life show that just in these above-mentioned situations the epithelium is thinner and more easily injured.

As to the course and character of the disease, the number of cases observed is too few to draw any positive conclusions. The period of incubation seems to be about eight days. The affection is a mild one, not affecting in any way the health of

the child. Healing process begins on the third day.

L. S. R.

2. Temeváry, R. (Budapest): Electricity and Massage IN GYNECOLOGY (Centralblatt für Gyn., No. 35, 1891).—T. compares the results of treatment obtained from the employment of the Thure Brandt and the Apostoli methods in cases of inflammatory affections of the pelvic organs, and finds that the constant negative stream corresponds in its effects to massage, since both cause hyperemia, dilatation of the lymphatics, and absorption of the pathological exudations; but the galvanic treatment acts as a caustic and electrolytic, whereas the Thure Brandt method effects a mechanical stretching and loosening of the pathological cicatrices and adhesions. The author believes, as do Clemens and Salvat, that in certain cases a combination of both methods is to be recommended, especially in cases of (non-purulent) inflammation around the uterus and tubes associated with a dislocation of these organs. He also believes that in cases of

displacement which are not held down by pathological exudations (uterine prolapse, retroflexion), the faradic current combined with massage and the use of a pessary will yield satisfactory results.

1. s. R.

3. CURATULO, GIACOMO EMILIO: HISTOLOGICAL RESEARCHES AND CLINICAL STUDY OF THE ALTERATIONS OF THE UTERINE MUCOUS MEMBRANE DUE TO THE PRESENCE OF TUMORS, AND A CONTRIBUTION TO THE STUDY OF THE ORIGIN OF THE CELLULAR ELEMENTS OF THE DECIDUA (Milan, 1891).—The author divides this work into three parts: a study of the condition of the endometrium in carcinoma of the cervix; the state of the mucous membrane in fibro-myoma; and a study of the origin of the cells of the decidua.

He recommends exploratory curetting and a careful histological examination in all cases of uterine tumor. He gives a report of twenty cases of cancer in which the uterus was removed through the vagina and subjected to thorough macroscopical and microscopical inspection. This he follows by a review of the normal structure of uterine mucous membrane, as given by Wyder, Turner, Engelmann, Lusk, Cornil, etc. He differs from the last-named authority in believing that connective-tissue cells, although rare, are occasionally

met with in the derma of the mucous membrane.

The structural differences caused by a morbid condition occur in the interglandular tissue and in the glands themselves; in the first case consisting of a proliferation of small round cells, in the second of a numerical increase of the glands, the proliferation of their epithelial lining, and a marked change in their shape, which becomes spiral. accounts for this flexibility of the glands by the hypergenesis of the cells, the increased amount of epithelial elements, and a more active secretion, tending to elongate the gland, which, unable to expand laterally, becomes sinuous. Landau, Abel, Henle, Orth, and Ch. Robin, on the contrary, consider this form perfectly normal. Curatulo believes that their opinion is due to the fact that it is exceedingly difficult to obtain specimens of normal uteri to study, and states that the majority of anatomists describe these glands as normally rectilinear or only slightly curved. He mentions the difficulty in deciding between a round-celled epithelioma and the mere products of chronic endometritis. In the latter the layers of flat cells situated between the glands and the interglandular connective tissue is usually intact, while in the case of the cancerous growth flat cells are met with only outside of the alveolar Moreover, the discovery of a few well-preserved ciliated epithelial cells, and a mucous degeneration occurring at the upper portion only of the cells, is in favor of glandular

125

endometritis. The greatest controversy exists upon the subject of the diagnosis between simple and malignant adenoma. The author gives the opinion of several authorities, but prefers that of Landau and Abel, who state that malignant adenoma is characterized by the disappearance of the typical glandular forms, the presence of abnormally shaped epithelium, and a suppression of the interglandular substance, but combats the idea that these malignant tumors are to be confounded with sarcoma, devoting several pages to a discussion

of the subject.

In the second part of this study, that devoted to fibromyomata, the author alludes to the variations in size of the uterine cavity, caused doubtless by the situation of the tumor. The two questions of deepest interest in this connection are, however, the following: 1. Are the hemorrhages accompanying uterine fibroids due to any special lesion of the mucous membrane? 2. In cases of uterine fibroids, are the lesions of the endometrium such as to justify the fear of malignant degeneration, and consequently to necessitate prompt and vigorous operative interference! Wyder was the first who endeavored to obtain an answer to the former question by aid of the microscope. Campe followed his example, but the results were not decisive. Curatulo made a histological examination in nine cases of fibro-myoma. In seven, which were all subserous, there were marked signs of interstitial endometritis at the site of the tumor, but of glandular endometritis in the other portions of the cavity, with some involvement of the fibrous tissue, which was rich in large round cells with one or more nuclei and cloudy protoplasm. There were some small lymphoid cells. The glands were never spiral in form, as in cancer. The author states his opinion that the existence of endometritis in cases of uterine fibroids depends largely upon the situation of the tumor: the nearer it is to the cavity the more will the lining membrane be stretched, its circulation impeded, and the tumor, acting as a foreign body, will cause an abnormal condition of the circulation of the whole organ, and especially of the endometrium.

Curatulo does not believe that much benefit is to be obtained from curetting in the case of fibro-myoma. To this he prefers the injection of caustics, Baker Brown's process of bilateral section of the cervix, or the application of electricity. With the exception of rare cases when fatal hemorrhages ensue from direct rupture of blood vessels, he believes that the hemorrhages proceed from the stasis of blood in the small vessels of the mucous membrane, rather than from any real alteration of the endometrium; yet some alterations certainly exist and contribute in part to the result. He thinks that there is no reason to fear malignant degeneration.

The third subject of this study, the origin of the cells of the decidua, in spite of many researches, is still a mooted question. The author thinks that the decidua should not be regarded as a neoplasm, but, with Kölliker and others, considers it a profoundly modified mucous membrane. The cells of the superficial layer are due to a hypertrophy and metamorphosis of the normal interglandular cells. Even in a non-gravid uterus these cells often resemble those of the decidua. In the deeper layers some small round cells come from the connective tissue binding the muscular bundles, and some nucleated, fusiform cells are undoubtedly newly formed and proliferating muscle cells (fibro-cellule muscolari). Leucocytes also play a part in the formation of the decidua. whose origin is thus seen to be very complex. The author calls attention to a point of medico-legal importance, namely, that the presence of decidual cells is not a proof of pregnancy, since they have been found in other pathological conditions, and even in empty uteri.

4. Richelot, L. G.: Remote Results of the Removal of the Uterine Appendages (Annales de Gyn. et d'Obst., April, 1891).—The author gives us in this paper his opinion of the after-consequences to the operation indicated in the title, based upon the study of about one hundred and twenty cases. He classifies them in groups, but premises that the classification is necessarily defective, as many of the lesions often

co-exist or merge into each other.

I. Slight Salpingo-ovaritis; peri-ovaritis; adhesions.—Several patients operated on for severe pain unrelieved by treatment. Results of the operation good. One patient had had a colporrhaphy in 1887, curetting and Schröder's operation in 1888. Removal of the appendages in March, 1889, brought about a cure. Another, not benefited by curetting in April, 1889, had her somewhat adherent but slightly diseased appendages removed in January, 1890, with good results. A third, troubled with menorrhagia and unbearable pain, was entirely relieved by the removal of adherent, small, sclerotic ovaries in November, 1890.

In such cases the patients, if young, may suffer for as long as eighteen months from flushing of the face and a sense of weight in the pelvis, and even from pain. If the appendages are the real cause of the local and reflex disturbances, however, and if they are entirely removed, leaving no portion

behind, the results ought to be good.

II. Ovaries with Small Cysts.—Out of thirty cases operated upon for this lesion, a complete cure was delayed for several months about ten times. One patient complained of pelvic tenderness, a second of nervousness and dyspepsia, a third of

continued menstruation. In all the other cases the cure was prompt and complete, one patient resuming hard out-door labor immediately after leaving the hospital, another recovering immediately from pain and hemorrhages which had troubled her for two years.

III. Chronic and Parenchymatous Salpingitis with Adhesions; Hydro-salpinx.—About thirty cases, three of unilateral removal of the ovary. Results excellent.

At least three were neuropaths. One still complains of a little pain, but is satisfied with the result. The second, operated upon in January, 1890, for large, dilated, sinuous, adherent tubes and cystic ovaries, had hysterical attacks at intervals for three weeks after the operation, pelvic pain and great nervousness for several months; but all these symptoms finally disappeared and she is in good health. In several cases menstruation continued for a while at irregular intervals, and one patient still menstruates regularly. Both tubes and ovaries were removed September 3d, 1889; not a particle of the ovarian tissue was left. The persistence of the habit of a uterine flow must account for the phenomenon.

The results in this group of cases are good, diseases of long standing and great severity being almost immediately

IV. Salpingo-ovaritis with Retroversion of an Adherent or Movable Uterus.—Fifteen cases, some of them too recent to report the results. The uterus is usually straightened and held in place by the traction exerted on the broad ligament in tying the pedicie.

V. Hemato-salpinx and Hematocele.—In all but two cases out of twelve the cure was rapid. In one it was delayed a few months; the second still suffers. The appendages of one side were so adherent that they could not be entirely

removed.

VI. Pyo-salpinx and Suppurating Ovaritis.—These are doubtless the most serious cases of all, because of the adhesion of the purulent cyst to the pelvic walls and the intestines, possible rupture of the sac, infection of the peritoneum, and collapse. The results are even more brilliant, however, than in the simpler cases, but of twenty-seven, fifteen were cured without a complication; the others had a persistence of

pain or of nervous phenomena for several months.
VII. Uterine Fibromata.—Out of fifteen cases all but two have given perfectly satisfactory results. The tumors have undergone atrophy, the menopause was induced, and the pain abolished. In one of the unsuccessful cases there was an error of diagnosis, and in the other there were profound cachexia, abundant ascites, and an adherent tumor. The patient died

two months after the operation.

Richelot considers this operation indicated in the case of small or medium-sized interstitial tumors of rapid development and causing pain or hemorrhages. In some other

cases he prefers abdominal hysterectomy.

VIII. Neuralgia; True Hysteria.—The cases of neuralgia operated upon by the author were not of a vague character, but constant and violent, with acute exacerbations, and were not amenable to other treatment. They were two, in which the ovary of one side only was removed, with a perfect cure as a result.

The hysterical patient was 17 years old; at 14 years of age had suffered from hemianesthesia with paralysis of the right side; was subject to attacks of hystero-epilepsy until 1889, since then has had melancholia and has attempted suicide several times. Richelot operated upon this patient in January, 1890, but without any real expectation of a cure. In March she was well, calm, and cheerful; has had no return of the nervous phenomena. She is now at work, and no one considers her an invalid. In spite of this excellent result, the author does not advocate removal of the appendages as a cure for hysteria.

He concludes from the facts quoted that this operation is as successful in the treatment of slight lesions of the appendages as in the more serious ones, provided that they are not so insignificant as to render the operation unjustifiable. The physician should exercise the utmost conscientiousness and

caution in deciding this difficult and delicate question.

A. R.

5. M. Lefour: A New Method for the Retention of Intrauterine Stem Pessaries (Gaz. de Gyn., July, 1891).—The author quotes Schultze as saying that the object of the intrauterine stem should be the reduction of flexions and the reestablishment of a normal cervico uterine canal; when this is accomplished, the dysmenorrhea, endometritis, and sterility

dependent upon the flexion will disappear.

To be at the same time efficient and innocuous, the stem should be aseptic, and should in no way interfere with the normal movements of the uterus, nor be the cause of the slightest injury to the uterine mucosa. Lefour uses a solid cylindrical stem, made of aluminium, about five millimetres in diameter, and five millimetres shorter than the length of the cervico-uterine canal. Upon its surface are four longitudinal grooves, which permit the discharge of the menstrual fluid and mucous secretions. There is a small transverse canal about five millimetres from one of the ends, both of which are blunt.

The cervix is dilated by means of a laminaria tent and

carefully disinfected, after which the stem pessary is removed from a sterilizer and inserted. The perineum is depressed, the vaginal walls held apart by retractors, and the cervix brought down with a tenaculum. A curved needle, threaded with silkworm gut, is inserted through the left commissure of the cervix (about five millimetres from the opening), passed into the little transverse canal of the stem, and through the right commissure of the cervix. The two ends of the silkworm gut are now tied in the centre, and the stem is maintained in position, but free to follow the slightest movement of the uterus.

Lefour has applied the foregoing method five times: twice for the cure of atresia consequent upon the use of chloride of zinc pencil, and three times for anteflexions. He reports the cases at length; in one of them, where the dilatation of the cervix was attended by exquisite pain, he impregnated the

laminaria with a solution composed of-

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and left it in place eight days, completely overcoming the sensitive condition.

The results in all of the cases were satisfactory. A. R.

6. L. M. Bossi: The Use of Hydrastis Canadensis in Obstetrics (Nouv. Arch. d'Obst. et de Gyn., August, 1891).— Metrorrhagia during pregnancy and labor is the most frequent and often the most serious obstetrical complication, and has led to a real abuse in the use of ergot, which, in the hands of practitioners who do not reason as to the contra-indications of the drug, becomes a source of danger to both patient and child. Tetany of the uterus and ergotism of the fetus are conditions which have been recognized by authorities such as Doléris, Tibone, Cuzzi, Schröder, Barnes, Tarnier, Braun, Morisani, and others, and need no further demonstration. Ergot should not be used so long as the fetus or the placenta is in the uterus.

Tamponade of the vagina is not always practicable. It is therefore of the utmost importance that some therapeutic agent be found which will have a hemostatic action upon the uterus without exciting it to contract—a drug which can be administered with impunity during pregnancy or labor.

The fluid extract of hydrastis canadensis, according to Dr. Bossi, seems to meet this need. From the reports of its use during the past two years in the Gynecological and Obstetrical Institute of Genoa, it is found that it was given in sixty-four cases of pregnancy and labor. A careful research was

made as to the following conditions: 1. The constitution and state of health of the patient. 2. The time of administration and amount given during pregnancy, labor, and the puerperal period. 3. The date of pregnancy at which labor occurred. 4. Existing complications at the time of its administration. 5. The results obtained. It was found that it was given in nineteen cases during pregnancy, for the relief of sacro-lumbar pains and the prevention of threatened metrorrhagia; for hemorrhage from various causes; for placenta previa with threatened abortion. From one hundred to two hundred drops a day were administered in divided doses. The results were excellent; the hemorrhages ceased both in the cases which went on to term and in the smaller number in which abortion could not be prevented. There were no ill effects of any kind, and no uterine contractions followed.

Hydrastis was administered to fifty patients during labor, usually in the first stage, for placenta previa, hydramnios, uterine inertia, and tedious labor, and to avert post-partum hemorrhage. The amount given was the same as above, in

fifty-drop doses.

Dr. Bossi considers the stage of dilatation the most favorable for its administration. Some little time is required for its action; if taken during the first stage, it will take effect during expulsion; if given immediately after expulsion, it will act during the delivery of the placenta and afterwards. In conclusion, he sums up as follows:

1. There is no danger to mother or child attendant upon

the use of hydrastis canadensis.

2. Its action is hemostatic, whether used as a prophylactic or for its immediate effect, and there is no ecbolic influence

exerted upon the uterine muscle.

3. Its value as a therapeutic agent in obstetrics is superior to that of ergot, since it accomplishes the same results without exposing the patient to the same dangers.

The fluid extract may be used:

(a) In the hemorrhages which occur during pregnancy and the puerperal state, in the amount of from one hundred to one hundred and fifty drops a day, in three divided doses.

(b) In hemorrhages during labor, in about four doses of fifty

drops each.

(c) As a prophylactic against post-partum hemorrhage, and in cases of hydramnios, uterine inertia, and excessive development of the fetus; in profound anemia, and where previous labors have shown that there exists a tendency to hemorrhage.

A. R.

7. A. Doléris: Too many Needless Mutilations—not enough Conservative Gynecology (Nouv. Arch. d'Obst. et

de Gyn., July and August, 1891).—This is an age in which unscruptious and unreasoning operative boldness, more or less helped out by antisepsis, too often takes the place of true surgical knowledge. Hysterectomy and laparatomy are undertaken apparently for the sole purpose of increasing the physician's list of operations performed; only the immediate result is taken into account, while those who stop to ask whether less radical measures would afford the desired relief are few indeed in number. Doléris protests vigorously against this condition of things. Vaginal hysterectomy, he says, is being zealously advocated by many simply because, when the operation is completed, no traces of it remain. Others maintain that by its means painful phenomena are abolished which conservative treatment fails to cure and which often persist after laparatomy. While this may sometimes be the case, he does not believe that it is always true. As to the effects of conservative treatment, he intends shortly to publish a report of about three hundred cases of chronic metritis (a third of which were complicated by unilateral or bilateral inflammation of the appendages), which will demonstrate the fact that a course of careful treatment directed to and overcoming the metritis usually subdues the attendant chronic inflammatory troubles and causes a total disappearance of pain. This result may not always be immediate, but, as a rule, it is sure to follow later, and meanwhile there is decided amelioration in the symptoms. There are, of course, some exceptional cases in which an operation is a necessity, and some hysterical and neuropathic patients who are not benefited by any treatment. In these latter cases, after operation, the pain is often only displaced, not abolished. Often a coccyodynia, or intense pain in the neck of the bladder or in the abdominal cicatrix, supervenes, and is about as unbearable as the original pain.

In the report of hysterectomies the whole truth is unfortunately not always told. One operator has claimed that the patient *obliged* him to operate. After palpation and prolonged internal examination, the diagnosis was still utterly beelouded. He performed hysterectomy, and removed uterus, tubes, and ovaries, all in a *perfect condition of health*. Could the patient have forced him to throw her out of the

window?

We all know the story of the surgeon who was on the point of operating upon an anesthetized patient, when, finding that he was about to remove a perfectly healthy organ, he discovered that the wrong patient had been brought to him. This might happen in the case of hysterectomy; the brilliant operation ended, restitution of the stolen organs would be impossible. Laparatomy would at least permit of

a correction of the diagnosis before removal of a healthy

uterus and appendages.

Can it be that operations are performed principally that young surgeons may acquire experience and dexterity, and that, if legitimate subjects of operation are wanting, the accommodating operator will perforce content himself with what he can get? Alas, it is truly heart-rending to have to tell these ambitious young practitioners that they will scarcely reach their desired end by these means! The removal of healthy organs is a very different thing from the removal of diseased ones. Experienced operators even meet with unex-

pected conditions gravely complicating the operation.

Doléris believes that about eight-tenths of the women operated upon have submitted needlessly to the mutilation, which, according to his figuring, would give a result of four thousand women in Paris deprived of their ovaries (or uteri) without a sufficient cause. He himself has the best of opportunities for seeing a large number of gynecological cases, and the longer he lives the more firmly he is convinced that conservative treatment is usually more successful than the radical operation in the cure of pelvic inflammations. The latter may be justifiable for myoma and for encysted abscess of the tubes; but when constantly undertaken for follicular ovaritis, catarrhal salpingitis, for pelvic neuralgia, and real or pseudo-hysteria, the subject will bear a little investigation.

Castration as a treatment for hysteria! Has it ever been applied for convulsions or hysterical hemiplegia in the male? Even supposing there be ovarian neuralgia, has the presence of hysterical neuralgia in the breast, the shoulder, or the occiput ever suggested the necessity of amputating the breast or shoulder, or of trephining? Moreover, a large number of operators entirely neglect to follow up their cases, and also dwell but little upon the mortality of the operation, whereas it is really essential, in judging of the value of the radical operation in neurotics, to ascertain (1) the result attained after the lapse of several years, and (2) the absolute demon-

stration that the operation is never fatal.

Antisepsis is a veritable weapon of defence to the surgeon, but so great are the abuses of operation that one is often tempted to ask whether this valuable discovery has not caused more danger than it has prevented. Neophytes in gynecology seem to have but one idea—laparatomy, sensational operation, a round dozen of castrations to start off with! Cases suddenly assume a dangerous aspect, and if nothing dangerous can be made of them, at least they necessitate an exploratory incision; but the abdominal wound is rarely closed without the extraction of—something. This is not gynecology, it is merely surgical license. Let the extremists

beware! They are playing with edged tools. In the course of time people will no longer be taken in by their affectation of simplicity, their occasional acknowledgment of error—"very deplorable, no doubt"—and their absolute mania for

operating.

Criticism is an ungrateful task, and the would-be righter of wrongs usually accomplishes little except to create enemies for himself. But in the face of threatened danger the honest man can scarcely adopt the principles of laisser faire, nor can the real gynecologists, who desire the good of their patients and who wish to be worthy of their profession, hold their peace when they witness the excesses committed in the name of abdominal surgery. Doléris, at least, will not consent to be an accomplice in this matter by his silence, and energetically protests against the too great abuse of laparatomy and the too general adoption of the blind, the often dangerous, and rarely useful process of vaginal hysterectomy as applied to the cure of pelvic inflammations.

A. R.

8. Blanc. Dr. Emile: Dystocia due to the Presence of a Uterine Fibroid (Annales de Gyn. et d'Obst., March, 1891).—The patient was 30 years old, pregnant for the first time after having been married six years. Had always experienced some menstrual difficulties (pain and menorrhagia).

She was first seen July 22d, 1889, at term; had been in pain since the 20th. A thorough examination convinced Blanc that her general health was good and that there was no pelvic deformity. The abdomen was greatly enlarged, and projected at the epigastrium and just above the symphysis.

From the physical signs a diagnosis was made of pregnancy complicated by a fibroid of the cervix and perhaps of the inferior segment of the cavity, with retention of a dead fetus. Chloral somewhat diminished the pains, and preparations were made for Porro's operation. But under chloroform the tumor was found to be slightly movable, and the space between it and the symphysis was somewhat enlarged; accordingly the operation was postponed. At the end of two days the membranes ruptured and a quantity of pale liquid escaped mixed with blood clots. On the morning of the 26th, after more pronounced pains, the doctor was able to reach a small and slightly dilated cervix, with a placental cotyledon projecting through the external os. By evening the opening was enlarged and the fibroid had ascended a little. The morning of the 27th the os was circular in shape and dilated to two and a half inches; a loop of the cord projected through it. The presentation was a breech, but imperfeet, and the fetus was situated almost entirely above and in front of the symphysis. At 1 o'clock P.M. dilatation had not progressed, but, yielding to the desire of the patient, the fetus was extracted by the application of a blunt hook around the groin; no difficulty was experienced except in the passage of the head. The fetus had apparently been dead eight or ten days. Delivery of the placenta was followed by hemor-

rhage, which yielded to hot injections.

Immediately after labor the conditions were as follows: pelvic cavity free; cervix widely open, thin, soft, apparently continuous with the vagina. The lower segment of the uterus was soft, thin, and well developed, and showed no trace of a fibroma. But just above the ring of Bandl was found the lower end of the tumor, which was hard, smooth, regular, and sharply limited, continuous with another mass in the right side of the abdomen. It was about the size of a fetal head, oval, flattened anteriorly and posteriorly, and adherent to the body of the uterus. The patient was unwilling to allow further examination.

The special complications due to the fibroid in this case were the production of placenta previa, death of the fetus, and an imperfect breech presentation. The most interesting point, however, is the displacement of the tumor as a result of the uterine contractions. Tarnier explains similar phenomena in the following words: "The vertical fibres of the uterus, in contracting, pull upon the horizontal fibres of the cervix, and at the same time act upon the tumor incorporated in the body of the uterus, so that it becomes displaced while the cervix dilates." Guéniet believes that the obstruction caused by sessile and subperitoneal fibroids of the cervix tends to disappear because of the uterine contractions, the gradual dilatation of the cervix, and the rising of the tumor above the superior strait. The escape of the amniotic fluid assists by partially emptying the uterus, and the pelvic extremity of the fetus presenting may insinuate itself between the tumor and the cervix. Lambert says the tumor is apt to be displaced when it is sessile and situated upon the inferior segment of the uterus, or when it has a very short pedicle. The uterine walls are lifted up around the fetal parts, effacing the cavity from above downward, the fundus is taken as a point d'appui, and the peripheric portions act like the diaphragm, so that the whole mass of the uterus has a tendency to approach the centre. The fetal part engaged is soon freed, and expulsion takes place as usual.

Blanc considers all these explanations valid to a certain extent, but observes that they do not explain how a sessile fibroid tumor of the lower portion of the uterus, occupying the superior part of the pelvic cavity, the cervix being to the front and above, could, during the dilatation of the cervix, not only escape from the pelvis but rise above the uterine

orifice out of reach of the examining finger. In the case under discussion, after labor, what remained of the supravaginal portion of the cervix was found near the entrance to the pelvis, surmounted by the inferior segment of the uterus

free from all neoplastic formation.

The displacing of certain fibroids inserted upon the cervix seems to be connected with the structure of this inferior segment; and that structure seems to depend upon the displacement or special arrangement of the muscular fibres which unite the body of the uterus to the cervix. When a tumor is inserted chiefly in this movable utero-cervical muscular zone, it will follow the upward movement of these fibres during labor, quite independently of all dilatation of the external os and the cervix itself.

9. E. Depasse: A Case of Pregnancy at the Age of Fifty-nine (Gazette de Gym., August, 1891).—The gray-haired patient who is the subject of this article came to Depasse because of a supposed abdominal tumor which two physicians had diagnosed, the one as a fibroid, the other as a cyst. Upon careful examination ballottement and the fetal heart were discovered. The patient was 59 years of age, had reached the menopause nine years previously, and had a married daughter 40 years old. On the 21st of December, 1889, she was delivered of a healthy child, which she nursed herself, and weaned on her sixtieth birthday.

A. R.

13. Fraisse: Cicatrices of the Cervix, due to Cauterization, complicating Labor (Nouv. Arch. d'Obst. et de Gyn., July, 1891).—The author reports the following ease as a warning against the abuse of intra-uterine cauterization:

The patient, a healthy multipara of 27 years, had been all day in labor, but, in spite of a normal vertex presentation and strong pains, the os was dilated to only the size of a ten-cent piece. In about three-fourths of its circumference it was surrounded by cicatricial bands about three-fifths of an inch thick and exceedingly tough and inelastic. The patient gave a history of intra-uterine treatment previous to this last pregnancy; caustics of various kinds had been applied, with no other result than to increase her suffering, and finally the chloride of zinc stick was resorted to. Pregnancy was normal. The cause of the dystocia was evident. The two physicians on the case consulted together as to the remedy, and decided that the choice lay between incision of the cervix and Cesarean section. As the os was far to the rear and inaccessible, and there was danger of the incisions extending as tears to the body of the uterus, they were in favor of the latter operation; but as it was impossible to gain consent to perform it, they resolved to temporize for a few hours, in the hope that the cicatrix might yield. Opium and chloral were administered, and the patient rested until 1 o'clock a.m., at which time the pains began again with great violence, continued for an hour, and then stopped abruptly. Complete prostration followed; rupture of the uterus with expulsion of the fetus into the abdomen was the diagnosis. The abdomen was immediately opened, without an anesthetic, and the fetus found to have escaped into the abdomen through a fissure extending the whole length of the posterior surface of the uterus and down the right side, implicating the broad ligament. The child was breathing when extracted, but died a few minutes later. The uterus and appendages were removed, and the wound drained and closed. The patient regained consciousness, but, although all restorative measures were

adopted, died at the end of fifty hours.

The uterns was earefully examined. Fraisse concludes that during labor the small, healthy, and only extensible portion of the circumference of the cervix was torn. The tear was carried back and to the right, lacerating both uterus and broad ligament. The cause of all may be traced back to excessive cauterization. . The author protests against the prevalent enthusiastic use of caustics, from nitrate of silver to the red-hot iron and chloride of zinc. The results, he says, are poor. He has had to resort to Schröder's operation many times to relieve the suffering caused by the cicatrices; nor has that operation, indeed, always sufficed, since they often extend into the uterine canal. Far too many practitioners persist in applying caustics to ulcerations which exist only in their fancy, and he hopes that the history of this ease will induce reflection and the abandoning of a superanuuated and barbarous custom.

11. Morison, Rutherford: The Surgical Treatment of Diseased Uterine Appendages (Brit. Gyn. Journ., November, 1891).—The author discusses only the practical questions of diagnosis and treatment of cases requiring operation. An elaborate differential diagnosis in many cases is difficult, in some impossible, yet in nearly all a decision may be formed as to whether the case requires operation or not.

Three symptoms are characteristic of inflammatory diseases of the appendages: 1. A history of recurrent attacks

of peritonitis. 2. Hemorrhage. 3. Pain.

1. Recurrent attacks of pelvic peritonitis—perimetritis of the older authors—are due in the majority of cases to gross disease in the tubes, pyo-, hemato-, or hydro-salpinx, and eases presenting this symptom, as a general rule, require operation. If left alone, imperfect recovery may follow a long and painful convalescence, liable to be disturbed by relapses. Even

when recovery seems assured and several months of apparent cure are passed, the patient is still not safe. The cause of disease remains, and the effect—pelvic peritonitis—may reappear at any time with alarming suddenness and fatal result.

Hemorrhage from the uterus occurs more or less in all the inflammatory diseases of the uterine appendages, and appears to be related to the recurrent attacks of pelvic peritonitis, which may be so limited and mild in character as not to attract attention to the pelvic organs. Hemorrhage in these cases is associated with more or less pain in the pelvis, is irregular in its onset, uncertain in its duration, and seldom profuse. By frequent recurrence and long continuation, in spite of suitable treatment, it produces serious deterioration of health, and, taken along with physical evidence of diseased appendages, points to the removal of these as the only satisfactory course. In certain rare cases hemorrhage is the only symptom of ovarian disease.

An apparently healthy, though probably inflamed, ovary displaced into Douglas' pouch is sometimes associated with irregular hemorrhage. This, together with incapacitating pain certainly caused by the displaced ovary and not remediable by milder measures, makes removal of the offending

appendages a justifiable and advisable operation.

Pain.—The most urgent symptom from the patient's point of view is the most misleading from the surgeon's. The most prolonged and painful complaints are not always

attended by physical evidence of organic disease.

What is true of the whole body in this respect is true of the uterine appendages also, though this fact is not sufficiently recognized. It is a safe rule to regard the continually pained, incapacitated invalid with surgical suspicion. Operations should not be performed on such cases, unless there is the most satisfactory physical evidence of gross and active pelvic disease.

The physical signs indicating that a case requires operation are:

- 1. The ordinary signs of pelvic peritonitis, with exudation possibly in sufficient quantity to obscure all other landmarks. The history is usually one of preceding genorrhea, abortion, or confinement, the symptoms those described, and cause diseased tubes.
- 2. Dilated and distended tubes, usually to be felt behind the uterus and recognized by the rounded shape and elastic feel. The history varies according to the cause of the disease and contents of the tubes. Gonorrhea is the most frequent cause, and the contents of the tubes usually purulent. Extrauterine pregnancy may be the cause, and blood is then found

in the tubes. The tumor behind the uterus in these cases is frequently mistaken for retroflexion of that organ, and the symptoms, those described, attributed to that displacement.

3. Ovarian enlargement, which may be due to abscess or chronic ovaritis. Ovarian tumors, all are agreed, must be re-

moved as soon as discovered.

4. A displaced ovary, when causing painful defecation, pain during sexual intercourse, irregular hemorrhages, and pain on palpation, should be removed, if ordinary methods

fail to relieve the symptoms.

5. Some cases of acquired dysmenorrhea, frequently due to chronic salpingitis, can only be cured by removal of the uterine appendages. It may be impossible to feel the ovaries and tubes, as they are buried in old adhesions. The presence

of adhesions is an important aid in the diagnosis.

6. Some cases where irregular hemorrhage, illness, and pain result from long-standing inflammatory disease of the uterine appendages, can only be cared by their removal. The history, together with signs of matting by adhesion of the pelvic organs, may be the only guides, for the ovaries and tubes, being buried in adhesions, cannot be palpated.

7. Every case of acute general peritonitis is due to some gross lesion, mostly requiring operative treatment, and in women the possibility of rupture of diseased appendages

must not be forgotten.

En Résumé.—Cases of ovarian and tubal disease requiring the operation of removal are those in which there are definite signs of disease in the pelvis, causing serious symptoms. Cases that should not be operated upon are:

1. Cases of dysmenorrhea, unless the form of acquired,

previously alluded to.

2. Cases of adherent and displaced ovaries and tubes, unless the serious symptoms previously mentioned are present. Pain in this class is a common symptom. The patients are neurotics and in bad health. Neither the pain nor bad health is due to the adherent tubes and ovaries. Adhesions anywhere else in the body are not regarded as a cause of pain and incapacity. Why make this an exception?

3. From what M. has seen and read, his present feeling is against operation in the most pronounced neuroses, as hystero-

epilepsy, insanity, etc.

Removal of the diseased appendages is the only course, if the diagnosis is correct. Patients have been cured after a variety of other operations, such as separation of adhesions, catheterization of tubes, etc., but similar cases have been eured by scratching the abdominal wall under an anesthetic and the insertion of sutures, with all the other formidable preparation and accessories of a serious operation. It appears that the choice in the two cases depends on whether it is thought better that the surgeon should be deceived or should deceive. As to the results of removing the appendages, nothing can be more satisfactory. The patient's immediate recovery is rapid, the mortality for a major operation small, and every one interested is satisfied with her ultimate condition.

M. is eonvinced—

1. That a woman is in no evident way altered by removal of her uterine appendages in these cases, except for the better.

2. That her womanly instincts and feelings are not abol-

ished by the operation.

If snitable cases only are submitted to operation, he believes that prolonged and tiresome convalescence and doubtful results will soon cease to be heard of.

12. JOYNT, HENRY NOBLE: NOTES ON THE TREATMENT OF SCARLET FEVER (Dub. Jour. Med. Sci., December, 1891).

—In the consideration of the treatment of scarlet fever two factors must be kept in view—(1) the virulence of the scarlatinal virus, and (2) the resisting power of the patient; and our efforts must be directed to destroy or mitigate the one

and to aid or increase the other.

Theoretically the treatment would appear to be the injection, at as early a stage in the fever as possible, of a "protective proteid." the active principle derived from the blood serum of an immune animal, "which has the power of destroying either the microbe against which immunity is possessed or the products on which the pathogenic action depends." Proceeding on such lines, Professors Behring and Kitasato have cured both diphtheria and tetanus in mice and guinea-pigs, and Hankin has isolated the proteid which protects the rat from anthrax. But as the scarlatinal "sozin" has not yet been discovered, we must proceed on more empirical lines. Some years ago the "expectant," that policy of masterly inactivity, was the favorite treatment of all fevers, and is at the present day upheld by many physicians. Now, however, a policy of active, aggressive treatment is gaining ground. If we cannot render the organism immune to the action of bacteria, we at least can and ought to try to destroy them by bringing about what Professor Behring aptly terms the disinfection of the living body—either by killing the microbes directly or else by hindering their growth. No chemical has yet been discovered which can be given in doses sufficiently powerful to kill the bacteria without at the same time producing toxic effects fatal to life. We must, therefore, fall back on the alternative method of charging the system with a weaker and less injurious antiseptic, and so

hinder bacterial development and reduce the quantity of toxic substances elaborated.

To carry out in practice the above theoretical conclusions, antiseptic treatment must be both local and general—must aim at destroying the micro-organisms at the seat of invasion as well as in the system. The scarlatinal germs enter the body chiefly through the mouth and nose. In any case, the scarlatinal virus, like the diphtheritic, exhibits a remarkable local action on the fances and tonsils, and our efforts must consequently be directed largely towards the region of the throat. In fact, some writers believe that by a vigorous local treatment by certain antiseptics scarlet fever may be aborted. this as it may, frequent irrigation with antiseptic solutions is essential. The number of such available antiseptics is large. J. finds a strong solution of boric acid in glycerin very reliable. It has the advantage of being not only innocuous if swallowed, but beneficial. The throat and nares should be thoroughly syringed out every three or four hours with this solution, and oftener if necessary. After irrigation, painting the ulcerated structures with the thick boroglycerin, or with glycerin of iodine (1 in 7), or, better, with glycerin of thymol (1 in 10-50), is a valuable addition.

The internal antiseptic treatment is not very satisfactory. Of the many preparations at hand J. finds thymol in full doses, dissolved in alcohol or olive oil, given with nux vomica and

ammonia, the most useful.

Besides the antiseptic, many other methods of treatment, theoretically and clinically, are valuable. These may be classified as follows: 1. The eliminative, which aims at getting rid of the excessive waste products of metabolism caused by the fever by means of diaphoretics, dinretics, and purges. 2. The antipyretic, which, by reducing temperature, reduces waste, quiets the nervous system, and conserves the patient's strength. Hot baths gradually cooled are undoubtedly the best means of reducing temperature in children. Cold packs for adults, cold sponging, ice caps, etc., are all useful. It is wonderful how, in many cases, delirium ceases, restlessness disappears, and sleep follows the application of water in some one of the above forms. The continuous-immersion-in-bath treatment, so successfully used in enterica by Dr. Barr, ought to be equally beneficial in scarlet fever, and deserves a trial. Antipyrine is well borne by children, and quickly and safely reduces temperature; quinine is less certain. 3. The stimulant treatment strengthens the heart, counteracts the nervous depression, supports the strength, and enables the patient to tide over the acute stage. Carbonate of ammonia, digitalis, caffeine, and strychnine, separately or in combination, are invaluable drugs. Strychnine seems especially useful in scarlet and

other fevers. Use alcohol sparingly; children, and indeed the majority of cases, do very well without it. But should the heart become feeble and nervous prostration marked, the tongue dry and cracked, and the rash purplish, then it becomes a valuable remedy. It must in such cases be given in full doses and pushed. By a free use many lives have apparently been rescued from death, but very many more have been lost by its injudicious employment. 4. Acids relieve thirst, stimulate the secretions of the digestive tract, and prove refreshing, but have little other value. 5. The perchloride of iron is a universal and favorite remedy. Of its efficacy in diphtheria there is no doubt, and when diphtheria complicates scarlet fever it is useful; but in most cases it has little or no effect, and J. has almost given up using it. In the large, hard, swollen tonsils in patients subject to tonsillitis it is chiefly indicated. Unfortunately, in spite of the most skilful treatment, a large percentage of our cases die, and in malignant

scarlet fever all remedies seem equally futile.

On the general management and dietary of scarlet fever a few notes are necessary. Confinement to bed, free ventilation of the sick-room, a constant temperature of about 60° to 65° F., milk diet, and flannel worn next the skin, are the broad principles of management during the acute stage. Free ventilation is an important point: a scarlet-fever patient cannot have too much fresh air; the maintenance of a warm temperature is a secondary matter compared to it. A hot bath daily, and sponging the body over with acidulated water or a weak solution of glycerin, are refreshing and enable the skin to act. Milk diluted with barley, soda, or lime-water, or boiled, or made into whey, should form the staple diet. Pancreatized and peptonized milk is more readily digested than plain milk. Cream is valuable for children. Beef tea often sickens and causes diarrhea in children; as ordinarily made it is stimulating rather than nutritious, but when prepared by digesting for a few hours, in a warm place, finely minced raw meat in water acidulated with hydrochloric acid, a highly nutritious fluid is obtained. Eggs are excellent. Sipping hot water or coffee assuages thirst, and the patient should be allowed to drink as much water as he cares, provided the quantity is not excessive.

As desquamation is most active during the second and third weeks, it is well to keep the patient in bed during this period. By this means the epidermic scales are prevented from being scattered about. A course of hot baths and inunction of the skin with some oily substance hastens the detachment of the epidermis. Many recommend the use of antiseptic inunctions to destroy the infection, and in private practice this may well be carried out. Jamieson has

advocated the use of resorcin-salicylic soap to hasten desquamation, but equally good results may be obtained by the use of any other soap and frequent bathing. Carbolic and other strong soft soaps are injurious to most skins. The patient should not be allowed to mix with his fellows till all signs of desquamation have disappeared from the soles of the feet.

It is well to keep the patient on low diet until the temperature falls to normal. Then bread, butter, rice, puddings, and other light farinaceous food may be substituted. In hospitals it is customary to withhold meat for the first three weeks.

A brief notice of the treatment of the chief symptoms and complications may not be amiss. As no one method of treatment is the best, and lest he should seem dogmatic, the author observes that the lines recommended are those from which he has observed the best results in cases sufficiently numerous to exclude fallacies, he having seen most remedies tried on upward of five thousand cases of scarlet fever. Delirium, restlessness, and sleeplessness usually co-exist with a high temperature, and until the temperature is reduced hypnotics are of little use. Reduce the temperature, and sleep and rest often follow. Baths and cold packs are useful. If the delirium be violent, in young sthenic adults, Graves' mixture of tartar emetic and opium may be tried. Paraldehyde is the most certain hypnotic, given in full doses. It acts rapidly, often within five minutes, is not depressing, but its nauseous taste is an objection. Bromidia, the bromides and chloral, sulphonal, chloralamide, and urethane are useful, in descending order. Morphine had better be postponed till other hypnotics are tried and found wanting. Laryngitis is often a serious complication. Hot fomentations, bromide of ammonium or potassium given every hour, combined with the use of the steam kettle medicated by creosote, tinctura benzoini co., conium, etc., may relieve it; but should the symptoms of laryngeal obstruction become marked, there should be no hesitation in performing tracheotomy. To be successful, tracheotomy must be done early, and then the results are not unfavorable. Salicylate of sodium in scarlatinal rheumatism is a specific. In very few cases indeed does it fail rapidly to relieve pain. It is best given in moderate doses every hour or two hours till effective, and then in smaller doses at longer intervals for some days. If there is much arthritic swelling, wrapping the joints in cotton wool is pleasant to the patient. The salicylate should always be pushed if there is any sign of pericarditis, even of nephritic origin. Under this treatment J. has never seen effusion sufficiently abundant to be detected. Two very common and troublesome complications are otorrhea and secondary rhinorrhea, the latter coming on after the second or third week. For otorrhea the

usual method of syringing out the ear, carefully drying it, and insufflating fine boric acid powder, as a rule suffices; but in strumous children sometimes a thin, fetid, and acrid discharge continues for days and weeks. An installation of alcohol (at first one in four, then stronger) in water holding in solution boric acid, thymol, or other antiseptic deodorant, poured into the meatus, the child lying ear upward, and retained for about twenty minutes, three or four times daily, often succeeds where the dry method fails. Alcohol should not be used if there be any acute inflammation. If any redness and tenderness appear over the mastoid process behind the ear, or should the ear stand out at right angles, an early and free incision should be made down to the bone. Free depletion is essential, and poultices increase the hemor-The secondary rhinitis of strumous children is difficult to cure. Syringe the nares frequently with an antisepticalkaline or weakly astringent—lotion, and then pass a quill of lint or absorbent wool smeared with an antiseptic ointment, preferably one of the mercurial preparations, into the meatus. At the same time, in both otorrhea and rhinitis, the strumous habit must be treated by cod-liver oil, the phosphates, and

The last and most important complication which needs notice is nephritis. It is well to test the urine daily for albumin, especially about and after the seventeenth day, as nephritis may come on without warning. When kidney disease manifests itself, the patient should be purged, wrapped in flannel, placed between blankets in bed, and put on a strictly milk diet. Mild cases require no other treatment. The favorite purgative is pulv. jalapæ co., but often it causes vomiting, and jalapin given in sugar is less bulky and nauseous and therefore preferable. Should the urine be scanty, in addition to purgation, hot fomentations or frequent hot poultices to the loins, hot baths, and blankets may be employed. Dinretics are of doubtful value, although some of the best authorities highly recommend them. The milder potassium salts, especially the citrate, are the most useful. If there is much anemia the iron salts are better. In the majority of cases the urine becomes plentiful in a few days, with or without diureties. Blood is present in a small proportion of cases at the onset or within a few days. Some, happily few, withstand treatment and drift into chronic Bright's disease—the smooth, white kidney. If the hemorrhage is excessive or long-continued, hazelin, ergot, and perchloride of iron seem to be the most useful drugs; gallic acid and other astringents have little effect. But rest in bed, and milk diet, copious draughts of water, hot baths and hot local applications, and strict attention to the bowels, are the main points in the treat144 ITEM.

ment of scarlatinal nephritis. Dropsy needs little comment. If treated early, on the lines laid down, the dropsy of scarlet fever gives little trouble. If neglected, however, it is a very serious complication. Digitalis and iron seem the most useful diuretics.

Characterized by headache, uncontrollable vomiting, convulsions, and coma, uremia is a formidable result of nephritis and requires active treatment. For convulsions the following is successful: At the onset of the convulsion a brisk purge is administered; calomel two to five grains, or croton oil, onehalf to one minim, rubbed up in butter, is placed on the back of the tongue. At the same time an enema of chloral and bromide of ammonium is given. Should the convulsions last for more than five or ten minutes, chloroform is pushed. In nearly every case the patient sleeps soundly after and there is no return of the fits. A gag prevents the tongue being bitten. A mixture of chloral and the bromides is given for the next few days. The most troublesome, and the least amenable to treatment, are those cases in which the attacks are of short duration and frequent. For these hot packs are often useful. Pilocarpine is an uncertain and, in some cases, a dangerous remedy, though, no doubt, it sometimes is very valuable. But diaphoresis may readily be obtained by other means less depressing. A uremic symptom quite as formidable as convulsions is vomiting, uncontrollable and incessant. Although central, it may be stopped by local treatment. All nourishment by the mouth should be stopped, and thirst quenched by ice or hot water alone. Bismuth and soda, and hydrocyanic acid, may be tried, or small doses of spirits of ether in water given every half-hour; but J. has found washing out the stomach with an alkaline solution of soda and borax, which dissolves and removes the irritating bilestained mucus, more effectual. Since adopting this plan he has never had any difficulty in stopping the emesis. A hypodermic injection of morphine was valuable in a couple of cases.

### ITEM.

Dr. Paul F. Mundé was elected a Corresponding Fellow of the Obstetric Society of Leipzic, Germany, at the four hundredth meeting of the Society, held on October 19th, 1891.

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### ORIGINAL COMMUNICATIONS.

FECAL FISTULÆ FOLLOWING LAPARATOMY;

OR,

SOME ACCIDENTS WHICH HAVE ATTENDED THE PROGRESS OF GYNECOLOGY DURING THE PAST TEN YEARS, 1

 $\mathbf{B}\mathbf{Y}$ 

A. PALMER DUDLEY, M.D.,

Instructor of Gynecology at the New York Post-Graduate Medical School; Gynecologist to Randall's Island Hospital.

The saying has often been repeated that in no branch of our profession has more advancement been made of late years than in that devoted to the treatment of diseases peculiar to women. It may also be truthfully said, about no branch has more been written. The enthusiastic statistic-hunter has raked over the musty works of ancient times, and, were it possible, would have long since supplied a statistical average with which to bridge the dark ages and bring an unbroken chain of evidence, from the ancient to the modern times, to show the steady advance in the science and art of

<sup>&</sup>lt;sup>1</sup> Address upon Gynecology before the New York State Medical Association, October 30th, 1891.

gynecology and the gradually diminishing death rate at the hands of him who is learned in that art. At the same time the conservative writer has been equally zealous in his efforts to show, by a long chain of evidence finely drawn out, that he who wields the knife in gynecology is little short of a murderer. Each has worked his good and each has found his level in the profession. It is not my purpose to tire you with a repetition of either side of the story, but to call your attention to some of the accidents that have attended their progress during the past ten years; it is only necessary for my purpose to go back so far.

At that time displacements of the uterus were being treated with pessaries; the knowledge of peri-uterine diseases was very imperfect, and they were being treated mainly by local applications per vaginam; uterine fibromata had only occasionally received the mysterious influence of electricity; procidentia had not been relieved by utilizing the normal supports of the uterus from within the abdominal cavity; the primary laparatomy for extra-uterine pregnancy was not even in embryo; improvements in Cesarean work were dormant, and, in fact, intra-abdominal gynecological surgery was yet in its infancy. During this time intravaginal work has been but little improved. The master and teacher, Dr. Emmet, has brought the work to such a state of perfection that little is left to be done. Sims, our country's favorite, laid the foundation of modern gynecology and built well during his time; but, with all that emanated from his brilliant mind and also that of McDowell, another shining light in our profession while he lived, it remained for a foreigner to point out the pathway over which progress in the treatment of diseases of women would be made in the future. It is not. every one that believes in prophecy, but time proves all things, and no truer prophecy was ever made than that by our honored Fellow, Dr. T. G. Thomas, in his address upon gynecology at the first meeting of this Association, eight years ago, when he fearlessly predicted that an enlightened and conservative surgery would be the pivot around which would revolve the gynecology of the future.

Let us see how this prediction has been fulfilled. What is the evidence? Have the changes that have taken place in our methods of treatment been due to the discovery of a panacea, to be given t. i. d. in some palatable menstruum, accompanied by the usual directions for vaginal douches, etc., and for which the credit should be placed at the door of him who has labored so earnestly, under the title of conservatism, to cover up his lack of mechanical ingenuity and ignorance of anatomical relations and surgical skill, while he belittled everything that tended towards advancement in the direction of a better knowledge of the pathological conditions within the pelvis which could not be ascertained by vaginal touch; or have they followed in the wake of him who fearlessly sought the seat of disease, which, if beyond the reach of his bimanual touch, was not beyond the reach of the knife?

Upon which side of the question lies the bulk of evidence? Surely with the enlightened surgeon, and, as a result, pessaries for displacements have given way to the various methods of fixation of the uterus by utilizing its own supports; cellulitis is no longer the stumbling block of the physician; electricity for extra-uterine pregnancy has been superseded by the primary laparatomy for its removal, and the long-continued vaginal applications for vague forms of disease behind and beside the uterus are now no longer the pinnacle of hope upon which the woman hangs her future prospects of health and happiness. By the aid of the knife, in the hands of earnest and skilful men, many of these doubts have been cleared and a correct diagnosis of the different forms of intrapelvic disease placed upon record for the benefit of suffering humanity and to aid those who shall enter the profession in the future.

Let me ask, has this great advance been secured without some loss? I think not; but when the profit and loss to suffering humanity as a result of work in gynecology during the past ten years shall have been properly and honestly summed up, it will readily be seen that the balance rests far on the side of profit, and the death rate attending such work will (as it has in the past) continue to diminish as our ability to make a correct diagnosis and our skill in operative manipulation shall increase with time and experience.

Thus far I have dwelt upon the two extremes—success and failure—to cure by improved methods in surgery, and indulged a belief that failures were due largely to errors in

diagnosis and unskilful surgery. I do not mean to say that all failures should be attributed to these sources alone, for accidents will many times attend the most careful work, and failure be the outcome of what would otherwise have been a complete success. It is to such results, following operation, that I particularly wish to call your attention, but the time allotted to this paper will only allow me to place upon record some experience with one form of accident.

For a number of years I have carefully watched the published records of cases of laparatomy, and occasionally I would find that, although an operation was recorded as a success, it would be noted that feeal fistula followed the operation. My experience with such cases leads me to believe that, could those patients have told their own stories, the successes would have been recorded as dismal failures and many of them would have acknowledged themselves to be in a worse condition than before the operation was performed.

These accidents can be avoided if proper care is exercised, at the time of operation, in breaking up peri-uterine adhesions and freeing the diseased appendages for removal, and the accident is such a distressing one to the patient that every precaution should be taken to avoid its occurrence. I have had it occur twice in my practice, in one hundred consecutive laparatomies. A third case, and the last, came to me from another surgeon. It contained so much of interest, and, with my assistance, terminated so disastrously, that I determined to report it in full, and at the same time collect and report as many cases of a similar nature as possible. I acknowledge I have succeeded far beyond my expectations. A thorough search of the medical journals reveals the fact that but very few cases have been reported where secondary laparatomy for cure of the fistula has been resorted to.

The following report of an unsuccessful effort to cure a fecal fistula following laparatomy, by secondary operation after medication had failed, will serve as an introduction to this chapter of accidents which I desire to record.

Mrs. R., age 43, married twenty-three years, had never been pregnant. Her general health had been good and menstrual history normal, except that her flow had been scanty rather than profuse. Her illness dated back two years and a half, and commenced with pain in the abdomen, which came on suddenly and at irregular intervals, lasting sometimes only a minute, then relaxing and coming on again at an interval of from one to fifteen minutes. These attacks lasted twenty-four hours, more or less, then she would have immunity from pain for perhaps a week or month.

pain for perhaps a week or month.

For two months previous to entering the California Woman's Hospital (from whence this portion of the history was obtained) the pain had been exceedingly severe, and especially marked in the right inguinal region. After a paroxysm of such pain a loud, gurgling sound could be heard. She had never, to her knowledge, had a discharge of pus from the rectum, but had passed blood in considerable quantity at stool. She had lost much in weight and suffered from frequent chills, followed by elevation of temperature occasionally reaching 103° F. The history of her case differed so materially from the general rnn of pelvic cases, and the difficulty of making a correct diagnosis by digital touch was so great, that exploratory laparatomy was decided upon, and on May 13th, 1890, Dr. McMonagle, surgeon-in-chief to the hospital, made the abdominal section. The uterus and its appendages were found to be in a normal condition. A large mass was found in the right inguinal region, which proved upon examination to be the appendix vermiformis and folds of cecum massed together by inflammatory exudation. The adhesions massed together by inflammatory exudation. The adhesions were with great difficulty separated, and inside of this mass was found about a teaspoonful of pus. In breaking up the adhesions a hole was made in the intestine, which was closed with catgut. The opening in the cecum which was caused by the removal of the appendix was also closed with catgut, and the abdominal cavity washed out with boiled water and closed with silk. She made an uninterrupted recovery from this operation; the abdominal wound healed by first intention, but one month later an inflamed condition of the wound was noticed, and she complained of great pain in that region. An incision was made in the line of the former one, and considerable pus and fecal matter escaped. This wound was washed out three times daily and packed with iodoform gauze for a period of two months. It closed to a very great extent, but continued from time to time during the following year

to discharge fecal matter. The patient had in the meantime grown fleshy and enjoyed considerable comfort.

All methods of treatment by irrigation and medication had failed to insure closure of the fistula. She came East and placed herself under my care in February last. At that time the fistula was discharging freely of fecal matter—in fact, almost the entire contents of the bowel were discharged through the fistula, the external opening of the latter being at the upper angle of the scar, just beneath the navel. A probe entering the fistula passed three and a half inches into the abdominal cavity and took a direction towards the lower portion of the cecum. Having such a history before me as I have just read, I labored under the impression that, the stump of the amputated appendix having been sewed up with catgut, the latter had absorbed before good union had taken place and the fistula had made its way from that point. The history contained no evidence that would lead to any other conclusion. All efforts to close it by medication having failed, when appealed to for relief by another operation I readily consented to try. Two good consultants, Drs. Lee and Hanks, kindly saw the case with me and coincided with my opinion.

On March 11th, 1891, I attempted the work, assisted by Drs. Goffe and Offenbach. An incision was made by the side of the old scar; the intestines were found to be somewhat adherent to the peritoneum; the track to the intestinal opening was about the size of one's little finger and formed by the abdominal peritoneum on one side and by the mesentery on the other. Great difficulty was experienced in bringing the cecum into view, owing to the thickness of the abdominal walls and adhesions about the intestines in the neighborhood of the fistula. After much difficulty the intestine was exposed, and it was found that, instead of a fistula existing where the appendix had been amputated, the appendix was still intact and normal in size, but up the anterior side of the cecum, at its junction with the ileum, there were five openings, each as large as a lead pencil, and all discharging into the one canal that opened through the skin. It at once became evident that a mistake in diagnosis had been made at the first operation, as well as by myself before making the second.

The fistulæ were in close apposition to each other, all within the diameter of an inch and a half, and two of them opening directly into the ileo-cecal valve. You can readily see that the location of these fistulæ was a most disadvantageous one. The infiltration and inflammatory exudation about the parts had thickened the coats of both the large and small intestines to such an extent that the calibre of the canal was much diminished, but to just what extent I could not tell at the time. Beyond the parts involved both the small and large intestines had become much dilated and thinned.

I acknowledge I was in a quandary as to what I should do or how I should handle the case. The mesentery was an inch thick with fat, making the operation of exsection a most difficult and dangerous one, setting aside the fact that to exsect and unite the small intestine to the cecum, with any prospect of securing perfect union, would have been next to impossible. I abandoned the idea. The effort was then made to bring the small and large intestines together and make anastomosis above the fistulæ, at the same time covering the latter in by uniting broad surfaces of the intestines. This method was found to be impractical, as it would allow of pocketing of fecal matter in the dependent portion of the cecum. As a last resort I determined to close each opening with fine silk and then cover the openings with the peritoneum of the mesentery. This was done, and at the time looked sufficiently strong to hold until union had taken place. The only drawback to this method of treating the case was the small calibre of the canal through which the feeal contents must make their way. The fistulous track was removed and the peritoneum brought together.

The patient rallied well and appeared to progress favorably till thirty-four hours after the operation. During this time small doses of saline cathartics had been given to keep the contents of the bowel in a liquid state. Thirty-five hours after the operation the bowels moved well, with much relief to the patient. Two hours later a second movement occurred; with it the patient experienced a sharp pain in the right inguinal region, and cried out that something had given way. She suffered a profound shock and sank rapidly, dying in two hours. I felt sure that accident had occurred with the

second stool, and a half-hour after death I reopened the abdominal cavity and found my suspicions confirmed—the larger of the five openings had given way and the contents of the bowel had escaped into the general peritoneal cavity. I removed the diseased portion of intestine, and the pathological condition which it presents is certainly an interesting one. It will be seen that the disease was not within the appendix, but far above it and in such a locality that any form of surgical relief was most difficult to obtain. In fact, I should not have attempted the operation, and I presume this remark can be borne out by the experience of many of those present; but my experience with such cases, coupled with the misleading history which I had received of the first operation, put me in a position to be unprepared to find such a condition and unequal to the emergency. However, the performance of laparatomy upon woman for intra-abdominal and pelvic disease has now become such an ordinary, every-day surgical procedure that the writer who cannot periodically report his series of successful cases frequently feels it incumbent upon himself to apologize for his lack of experience. But the mere report of a successful result, meaning that the patient did not die, does not tell the tale of many of them, or half the woes which the patient would have escaped had she not been the heroine in the drama. Human nature, after all, is frail, and it is not every man that wants to publish his failures to the world, and the misery that sometimes follows his handiwork within the peritoneum is never known; but many times I feel that more is learned, in our profession, from the careful analysis and publication of cases in which we fail than by a long series of successes.

At the meeting of the American Gynecological Society in Boston, three years ago, Dr. Coe read a valuable paper upon accidents following laparatomy. One of my objects at the present time will be to add another to the list, record some personal experience with the accident, and place before this Society, for consideration, a series of cases that I have gleaned from the practice of other men engaged in abdominal surgery. That fecal fistula following laparatomy is by no means an infrequent accident will be shown by the number of cases I have collected in a short period of time. I am well aware

that the history of many of them will be imperfect in detail, but, by a careful consideration of each. I hope to be able to point out some of the causes of the accident. That the accident (for such I shall term it), when it does occur, is a serious one no one can dispute; and if the history of these cases points to the fact that fistulæ followed most frequently on those cases where there were extensive adhesions, then the old saying that "an ounce of prevention is worth a pound of cure" is one well worth remembering while working within the abdominal cavity.

Some Methods of Prevention.—In cases of disease of the appendages complicated by extensive adhesions, I consider it unwise for any operator to work against time, or calmly attempt to show an attentive audience how rapidly he can complete such an operation. I think many times the mistake is made of attempting to work in the pelvis through too small an abdominal incision. If we have a case complicated by extensive adhesions, we should without delay make an incision sufficiently large to readily admit of visual inspection of the pelvic contents. We are then able to locate the adhesions readily, and many times escape the dangers of injury to the intestines which, by blind manipulation with our fingers, we could not prevent. Frequently in our experience we meet with cases where the adhesions are so strong that they cannot be broken up or released except by the aid of instruments. Under such circumstances it becomes an easy matter to do injury to the peritoneal covering of the gut while carelessly dragging upon adhesions attached to it, and have the injury escape notice until it makes itself manifest by leakage and fistula, which, in the majority of these cases (forty-one of the seventy-four), it did in about one week after the operation.

When closing the abdominal cavity, if drainage must be used, the greatest care should be taken to employ that form which will answer the purpose with the least inconvenience or injury to the patient. From my own personal experience I am satisfied that the use of iodoform or bichloride gauze as a means of drainage from within the abdominal cavity, serves a better purpose and is less dangerous than the glass tube, owing to the fact that the latter, if subjected to pressure from

above, is liable to produce sloughing of the bowel when resting against it within the pelvis.

It would appear, from the records of the cases I have collected, that in the vast majority (sixty out of seventy-four) the prime cause of the accident was extensive adhesions in the pelvis, in the breaking up of which some injury was done to the coats of the intestine, and the injury had been overlooked at the time of the operation. It is a well-known fact that injury to the intestine, unless very extensive, if properly repaired at once will usually heal without resulting fistula. I am well aware that some of the older operators yet adhere to the idea that it is best to work in the pelvis through as small an incision as possible and with the utmost speed deeming both to be great factors in preventing shock to the patient. My own experience has taught me the contrary, while it has demonstrated to my satisfaction how easy it is to injure the coats of the intestines in blindly breaking up firm adhesions within the pelvis.

Following direct injury, I consider the next most frequent cause of fistula to be the indiscreet or improper use of the drainage tube, for I claim that many times it is used when there is not the slightest indication for it. I cannot claim it as the cause in my own cases, for I have only used the drainage tube twice in my laparatomy work, and in both the patient died before fecal fistula could develop. Of the seventy-four cases reported, in only thirteen was the drainage tube not used, and in twenty-six of the cases the accident was attributed directly to the use of the tube by the operator, while no answer was given to the question in thirty of the cases. In only eighteen was the claim made that the tube did not influence the formation of the fistula.

A third cause, which I deem an element of danger to be well considered and guarded against, is the use of catgut in intestinal surgery. I have long since learned better than to trust an injury of the intestine to catgut suture, and believe we should never use the latter in such work. To insure perfect coaptation of the coats of the intestine until perfect union had been secured would require the use of catgut much too large to be used in such tissue, while the influences peculiar

to the intestines themselves, acting upon catgut, in my judgment make it a very unsafe form of suture for such work.

Of the various forms of pelvic disease for which laparatomy was resorted to, and in which fistula afterwards developed, diseases for which Tait's operation was performed head the list, numbering thirty-three of the seventy-four, while tuber-cular peritonitis and parovarian cyst occupy second and third

place in point of occurrence.

One of the most difficult questions to answer, by those who so kindly favored me with reports of their cases, was the one relative to the exact location of the fistula through the bowel. A positive answer could not be vouchsafed for twenty of the cases. In thirty it was thought to be the sigmoid flexure of the colon or rectum; in seventeen, through the small intestine; two through the ascending and one through the descending colon. It is to be regretted that so little positive information could be obtained concerning this point, for upon our ability to correctly locate the seat of injury to the gut must largely depend our methods of treatment for its relief and our prognosis of future immunity from trouble.

Methods of Treatment.—The hardest part of my task approaches when I attempt to formulate any concise method of treatment, either medical or surgical, for the cure of fecal fistula following abdominal section. I have already expressed the opinion that for this form of accident the treatment should be eminently a preventive one, and, unless the case be one of pyo-salpinx, or some sort of suppurating disease within the pelvis in which the injury to the bowel has already taken place, in ninety-nine cases out of a hundred this accident can be prevented by exercising the care and attention to detail, when making the primary laparatomy, which I have drawn attention to. My chief object in choosing this subject for my paper was the hope that, in collecting cases, I should be able to gather from the combined methods of treatment adopted in the cases reported some form of treatment which, if properly carried out, would secure a good result in all cases. But when I find that only thirty-nine of the seventy-four cases reported yielded to any form of medical treatment, and that in those cases which resulted in cure the operator did not report the successful method employed, I am thrown upon

my own resources and my own experience for the methods of treatment which I shall recommend for such accidents.

I believe that in the majority of cases, if proper medical treatment is at once instituted, a closure of the fistula will be secured; but, as I have already stated, the result will depend largely upon the location of the fistula, and in those cases where success has been attained by methods non-surgical the injury to the intestine has occurred low in the pelvis, where there is slight vermicular action of the bowel.

Absolute rest in bed is an essential feature of the treatment, and the patient must be kept upon a diet that is as little gasproducing as possible; the purpose of this being to prevent distention of the bowel and to allow the rent to lie as much in apposition as possible. The object to be attained in securing success is a firm closure of the fistula from its starting point in the bowel, and when it has manifested itself no time should be lost in stimulating granulations about the site of the injury. In the two cases which occurred in my practice, one started in the sigmoid flexure of the colon twenty days after laparatomy was made, and the other made its way through the cecum two months after the operation. As soon as I was informed that leakage had taken place I located the direction of the sinus, and, after washing it out thoroughly with a bichloride solution (1:1,000), I carried through the sinus and directly into the bowel a tampon of marine lint saturated with balsam of Peru. This dressing should be repeated daily and the tent kept in the bowel until the opening has become quite small; then the bowel should be thoroughly cleaned out with some form of cathartic, and afterwards kept at rest for a week, or until the resulting granulations have closed the opening in the bowel, which should be evidenced by the cessation of the escape of gases through the sinus; when first moved again, it should be by enema. Even after closure of the fistulous opening in the bowel has been secured, the sinus ought to be kept packed with the marine lint until granulations gradually force it out and close the sinus. In both of my cases this method of treatment was successful; I cannot say that it would have been had the fistula been in the small intestine, but I see no reason why it should not.

To be sure, the method I have spoken of is not the only

one that has been successfully adopted. Medical treatment of this condition must necessarily be with remedies which will stimulate a closure of the track by granulations; but the secret of success is the proper management of the bowel as a whole—to keep it well emptied, free from gas, and, above all, well irrigated. In a case that occurred in the service of Dr. Lee at the Woman's Hospital, Dr. Bird, the house surgeon at that time, succeeded in closing a large fecal fistula, after other methods had failed, by keeping the parts irrigated by a constant double current of warm water.

by a constant double current of warm water.

Should all attempts to close the fistula by such methods as I have mentioned fail, then the question of treating it by surgical means arises. Here again the method of treatment to be adopted will depend entirely upon the location of the fistula and the pathological conditions which surround it. A radical closure of the rent in the bowel means another laparatomy upon the patient, with all the attending dangers; and still there are many cases that have been neglected in the early stages of their formation, and have resisted all forms of medical treatment afterwards, that would readily and kindly early stages of their formation, and have resisted all forms of medical treatment afterwards, that would readily and kindly yield to treatment by suture if the surgeon have the courage to try the second time and the patient would consent to undergo the ordeal. It is a much easier task to close fistulæ of the small intestine than of the large, owing to the difference in the thickness of the coats of the former and the fact that when the fistula occurs in the large intestine it is usually so low in the pelvis as to make it very difficult to introduce sutures, owing to the inability to get a good view of the parts. However, this difficulty can be readily overcome by illuminating the pelvic cavity with reflected light and placing the patient in the Trendelenburg position, with the hips elevated so that the abdominal contents shall gravitate away from the parts we wish to work upon.

Some two years ago I reported a case of secondary laparatomy for the purpose of finding a suppurating ligature and closing the sinus. After entering the abdominal cavity I found that the sinus not only led outward through the skin, but also into the rectum through its upper portion. In this case the opening in the bowel was so low in the pelvis, and the adhesions about it so firm, that I could not bring it to view; but by illuminating the pelvic cavity by reflected light

I was able to locate the fistula and close it successfully by stitching the rectum to the posterior wall of the uterus.

Although I am a strong advocate of the use of eatgut suture within the abdominal eavity, whenever it can be done, in all cases of intestinal surgery I should abstain from using it and employ in its stead fine silk that had been properly prepared for the purpose. I invariably use the continuous stitch in this work in preference to the interrupted, for I deem it a safer form to employ.

If the fistula has occurred in the small intestine and is of such magnitude that it cannot be closed by refreshening the edges and properly uniting the cut surfaces, then the question of exsection of the bowel arises. It is being successfully done. and, had it been possible, I should have performed that operation in the case I have reported. Had I to deal with such a case again, I would treat it very differently, and, even though I sacrificed the ileo-cecal valve, I would cut the stricture and attempt a union of the intestine after the manner described. for the relief of pyloric stricture.

It is not my purpose to enter into a discussion of the different forms of treatment adapted to injury of the intestines in this paper, but to record the fact that certain accidents have followed in the wake of improvement in gynecology and to attribute those accidents largely to carelessness. Although I have been looked upon as one who might be deemed radical in my ideas respecting abdominal surgery, I most emphatically declare that conservatism is always my motto; but I do not interpret conservatism to be idly sitting by and using palliative methods of treatment for cases which I do not understand, at the same time reading of work performed by others and condemning it because I cannot do it myself, but rather I consider conservatism to mean faithful, careful, intelligent study of one's cases until we can make a diagnosis based upon a perfect knowledge of the pathological conditions existing in each of the patients studied, and in that way know from positive knowledge whether operative interference is demanded or not. When that point has been determined, then operate, with the object in view always of having our patient recover without being obliged to record such an accident as I have narrated.

# CASES OF FECAL FISTULA FOLLOWING LAPARATOMY.

| Remarks.   | Both made a most satisfactory recovery.   | Yes; in Will not attempt sec-<br>2 eases ond laparatomy<br>fistula again; considers the<br>was best treatment non-<br>found surviced   |   | Patient died at end of week from exhaustion.   | Cause of fistula, murral abscess rupturing into bowel.  |
|--|---|--|---|--|---|
| Was secon-<br>dary lapa-<br>ratomy<br>made?  |   | Yes; in<br>2 cases<br>fistula<br>was   | Yes; in 2 cases suc-<br>cessful.  | No   | Yes;<br>suc-<br>cessful.                                |
| Success or fail-<br>ure to cure by<br>medical treat-<br>ment.  | Tube used in Extensive in Both closed No both cases, testinal ad- spontane- but had no hesious influence, about the in three appendages. weeks, sec- appendages, ond in nine  | Two closed spontaneously.  | Samot an- Extensive in No success swer; cases all the cases, with medioperated upon first by other surgeons.  | None   | Моне  |
| Form of displaying the control of ease operated drainage tube adhesions enfor, in its cause, countered.  | Extensive intestinal adlesions about the appendages.  | Extensive in Two cl. 2 cases sponta where tube ously, was used.  | Extensive in all the cases.   | No adhesions, but<br>nreter cut<br>and stitched                                      | into wound,<br>Adhesions<br>moderate.                   |
| Influence of drainage tube in its cause.   | Tube used in Extensive both cases, testinal but had no hesions influence, about the appendix  | ovarian ing cause in 2 cases cysts, 1 for 2 cases.  Pyo-salpinx where twee two salpinx   | Cannot answer; cases operated upon first by other surgeons.   | tu. No tube No adbe-<br>used; gauze sions, but<br>drainage. ureter cut<br>and stitch | No tube used  |
| Portion of in Form of distribuence of Character of Success or failtestine in ease operated drainage tube adhesions enur to cure by volved, for, in its cause, countered, ment, ment, | OT.   | 2 for large<br>ovarian<br>cysts, 1 for<br>pyo-salpinx  | Pyo-salpinx in 4 cases.   |  | Ovarian tu-<br>mor.                                     |
| Portion of in greatine involved,   | 1 during first Sigmoid flex. I for pus Tube used in Extensive in Both clos spontaneing second carracter in time pregnation of colon.  The case, I dure cases, I cestinal adspontance in Spontane outly, first carracter influence, about the in three influence about the in three outless second in the cases. | First, second, Sigmoid flex- 2 for large Tube excit. Extensive in Two closed and third ure of colon. ovarian ing cause in 2 cases spontaneweek.  Week. pyo-salpinx was used. | week, 2 in cases, sig- second moid flexure week, 1 in 3.  week, 1 in 3.  In 4 cases, sig- upon first upon first by other upon first | week.  During first Sigmoid flex- Ovarian week.  ure of colon. mor.                  | Third week, Heum Ovarian tu-No tube used Adhesions mor. |
| Time of appearance   | 1 during first<br>week, 1 dur-<br>ing second<br>week.   | First, second,<br>and third<br>week.   | week, 2 in cases second moid week, 1 in 2, third week, 1 in 1 in 1. In fifth  | week.<br>During first<br>week.   | Third week.   |
| Number<br>of cases.  | 63  | ಣ  | 10  | 1  | T   |
| Name of sur-<br>geon report. of cases,   | Dr. Ashby,<br>Baltimore.  | Dr. Baer,<br>Philadel-<br>phia.  | Dr. Bernays,<br>St. Louis.  | Dr. Byford,<br>Chicago.  | Dr. Boldt,<br>New York.                                 |

CASES OF FECAL FISTULA FOLLOWING LAPARATOMY.

| Remarks.   | Cyst could not beenn-<br>cleated, and was<br>drained without be-<br>ing stitched to the<br>wound | Has witnessed one case of secondary laparatomy which terminated fatally.   | This fistula was sub-<br>sequently opened<br>by accident.      | All were severe cases.  | Patient died several<br>months later from<br>Bright's disease.    | Two closed Yes, in Died in thirty-nine spontane- third hours from reopenously; third case. See case reported. |
|--|--|--|--|---|---|---|
| Was secon-<br>dary lapa-<br>ratomy<br>made?  | No   | No   | No   |   | No  | Yes, in third case.   |
| Success or fail ure to cure by medical treatment.  | No success<br>with medi-<br>cal treat-<br>ment.  |  | Closed in<br>three weeks<br>spontane-<br>ously.                | Three heal-No. ed spontaneously.  | No success No with medical treatment.                             |   |
| Character of<br>adhesions en-<br>countered.  | ube used; Adhesions<br>don't know about tu-<br>its influence mor, but not<br>intestinal.         | 2 Adhesions in No success cul-de-sac, with med cul treatment.  | Adhesions<br>extensive.  | Adhesions extensive.  | Adhesions<br>extensive.   | Extensive adhesions in all.   |
|  | Tube used; Adhesions don't know about tu- its influence mor, but n                               | for ovarian Caused in 2 syst, 1 for cases by pyo-salpinx tube pressure.  | Mural ab-<br>seess in<br>track of<br>tube.                     | Notice Adhesions attached to extensive drainage tube.   | Tube used; Adhesions don't know extensive, what influence it had. | No tube used  |
| Portion of in Form of dis- Influence of testine in- ease operated drainage tube volved, for, in its cause. |  | 3 (not in First, second, Small intes-2 for ovarian Caused in his and third tine. cyst, 1 for cases by own week, practice). | Papilloma of Mural ab-<br>both ova-<br>ries, track of<br>tube. | Not stated 2 for tuber- No influence Adhesions cular peri- attached to extensive tonitis, 3 for drainage disease of tube. |   | 2 for pyo-sal- No tube used Extensive pinx, 1 for adhesions pericecal disease.                                |
| Portion of intestine involved.   | Heum   | Small intestine.   | Пепт   | Not stated  | Don't know .  | First sig-<br>moid flex-<br>ure, second<br>and third<br>through ce-<br>cum.                                   |
| Time of appearance.  | Second week    Deum    Parovariau eyst.  | First, second,<br>and third<br>week.   | 1 month af- Heum<br>ter second<br>laparatomy.                  | All during<br>first week.   | During first<br>week,   | First 20 days, second 60 days, third 30 days after operation.   |
| Number<br>of cases.  | -  | 3 (not in his own practice).   |  | ಬಾ  |   | <del></del>   |
| Name of sungeon report of cases, ing case.   | Dr. Bellamy,<br>Memphis,<br>Tenn.  | Dr. Coe,<br>New York.  | Dr. Currier,<br>New York,                                      | Dr. Cushing,<br>Boston.   | Dr. Dudley,<br>Chicago.   | Dr. Dudley,<br>New York.  |

| e of   | Am disposed to attri-<br>bute the formation<br>of the fistulae to the<br>pressure of the  | Patient died of peritonitis.                                     | The cautery was used in treating this case.                      | scondary laparato-<br>my by another<br>operator. Patient<br>died in twenty-four          | stula caused by pressure of harelip pins used in closing   | In these cases the fistual was caused by injury to the outer coats of the bowel.   |
|--|---|--|--|--|--|--|
| at con   | o a<br>rma<br>e to<br>the   | - Jc   | ras r<br>bis c   | arrad<br>her<br>Pati   | by<br>clo  | the or   |
| ot st  | for of  | po   | y so   | hap<br>mot<br>wen  | of<br>of in  | ises<br>s ca<br>o the  |
| died<br>h nc   | spos<br>the<br>ne fit   | t di<br>is.  | ute<br>satin   | by a aton  | sure<br>use  | was was of the control of the contro |
| oth died. Time<br>death not stated   | m disposed to a<br>bute the forma<br>of the fistula to<br>pressure of the   | tube.<br>tient c   | he cautery was used<br>in treating this case                     | Secondary laparato-<br>my by another<br>operator. Patient<br>died in twenty-fon<br>hours | Fistula caused by pressure of han pins used in clo         | these cases the fis injury to the oute coats of the bowel.   |
| Bo   | <u> </u>  |  | <u>Ę.</u>  | Second   | Eis  |  |
| ed ed  |   | :  | :  | :  |  |  |
| Both re Both died. Time of fused death not stated. opera-tion.   | No.   | No.  | Λο.  | Yes  | No.  | Z6.  |
|  | Three healed No kindly; fourth still open at end  |  | Healed spon-<br>taneously.                                       |  | 5  | Both healed No. in spontane. r. ously. All but one No. ly. ly.   |
| cess<br>art-   | Fhree healed kindly; fourth still open at end   | Medical<br>treatment<br>unsuccess-                               | Tenled spo<br>taneously.   | dedical<br>treatment<br>failed.  | Medical<br>treatment<br>successful<br>in 9 weeks           | Both heal<br>spontane-<br>ously. All but o<br>healed kin   |
| No succes<br>by treat-<br>ment.  | ndl<br>urtl   | Medical<br>freatme<br>unsuced                                    | neo<br>neo   | Medical<br>treatme<br>failed.  | dice<br>ceeting  | Both h sponta ously. All but healed ly.  |
| N.E.E  |   | N to E   | E E  | EEE  | Me<br>tr<br>su   | S F O T T  |
| ions   | e<br>ns in  | o.<br>Js.  | e<br>18.   | 9. s.  | ions   | Adhesions Both bealed extensive in spontane-lase only. Ously, o Extensive MI but one authosions in healed kind all cases.  |
| lhes   | usiv<br>sion  | nsiv<br>esion  | sion   | sion<br>sion   | Hies   | sior<br>nsiv<br>se ol<br>nsiv<br>ssiol<br>asce   |
| load   | Stell<br>Edhol  | Extensive<br>adhesions.  | extensive<br>adhesions.  | skter<br>Idhe  | 0310   | Adhesions extensive 1 case onl Extensive adhesions all cases.  |
| ii to  | G .E ::   | -  | <u>宝"</u>  | l'ube used, Extensive<br>but had no adhesions,<br>influence,                             | No influence Noadhesions Medical<br>from tube.             | Tube used, Adhesions and directly extensive in influential. I case only. Fube had no Extensive all cases.  |
| lube used in both; thought to be injurious   | al<br>g a   | ube used;<br>influence<br>not known                              | e use  | sed,<br>ad n   | Vo influend<br>from tube                                   | ube used,<br>and directly<br>influential.<br>Tube had no<br>influence.   |
| oe u<br>th;<br>ougl  | enti<br>usin  | Pube used<br>influence<br>not know                               | tub  | 'ube used<br>but had<br>influence.   | ii ii  | d di<br>d di<br>lue<br>lue<br>hue  |
| Tube 1 both; thought though  |   | Tul<br>inf<br>no   | No   | THE THE  | P. C.  |  |
| Both during Small intes-Removal of Tube used in Noadhesions No success first week, tine, those and both; the population ovaries, the injurious | All through 2 for pyo-sal-Tube was in Extensive the rectum, pinx, 2 for fluential in adhesions in parovarian causing all, all, eysts. | 6 weeks Not known Ovarian ta-Tuhe used; mor. influence not known | Third month Unknown Removal of No tubeused Extensive appendages. | Small intes-Ovarian tn-Tube used, Extensive fine. mor. but had no adhesions influence.   | ii.  | First in 10 Could not tonitis.  In 2 weeks.  All in first Sigmoid flex. Pyo-salpinx Tube had no Extensive in 2 week.  All in first Sigmoid flex. Pyo-salpinx Tube had no Extensive and ovarian influence. adhesions abseess.   |
| val<br>s an<br>ies.  | oyo<br>. 3<br>varri   | un<br>un   | val  | æ  | in of  | is.<br>alpi<br>oval  |
| tubes and ovaries.   | for p<br>pinx,<br>parov<br>eysts.   | ) varis<br>mor.  | Removal o<br>appendages  | varî<br>mor.   | lernia of<br>umbilical<br>cord in in-                      | celvic<br>tonitis.<br>Yo salp<br>and ove   |
| - F  | 2 - 2   | <u> </u>   | ≅ =  | <u>Č</u> =   | 1 7 daysSmall intes-Hernia of<br>tine. umbilica<br>cord in | 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7  |
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| = 5  | rec   | kne  | HOM  | = ::   | = 3  | ld n<br>noic<br>of c   |
| tin  | the   | Not  | Unk  | ting   | Simel<br>tine  | Coursey<br>Sign  |
| oth during Smal <br>first week. tine.  | ئ   |  | 12   | :  | :  | First in 10 Could not days, second say. in 2 weeks. All in first Sigmoid fl week.  |
| dur  | All in the first week.  |  | mom  |  | ;  | first in 1<br>lays, second<br>in 2 weeks.<br>All in first<br>week.   |
| th<br>irst   | l in  | veel   | ird  | 10 days  | lays   | rirst<br>lays, s<br>in 2 w<br>in in<br>week.   |
| - Bo   | <u></u>   | 9  | <u> </u>   | 2  | 1-   | Ægia∆ »  |
| ¢5   | 4   | 1(not<br>his<br>own  | 1  | -  |  | es <u>= = = = = = = = = = = = = = = = = = =</u>  |
| -i-i-  | ell,  |  |  | on,  | Tg,  | on,<br>Col.  |
| Dr. Ethe-<br>ridge, Chi-<br>cago.  | Dr. Goodell,<br>Philadel-<br>phia.  | Dr. Goffe,<br>New York.  | Dr. Gordon,<br>Portland,<br>Me.                                  | Dr. Jackson,<br>Clitcago,  | Dr. Jaggard,<br>Chicago.                                   | Dr. Jos. Tuber-Johnson,<br>Washington<br>Dr. H. Kelly, Balti-<br>more.   |
| Dr. Eul<br>ridge,<br>cago.   | Phila<br>Phila<br>Phia.   | Gew  | Porth  | r. Jacks<br>Chicago.   | Or. Jagga<br>Chicago.                                      | Jr. Je<br>ber Jo<br>Wash<br>Jr. H<br>Jy, Bg<br>more.   |
| T. B   | 525   | 5 X  | 252  | D D  | Ų,   | Q ₹ Ş Ş Ş E  |

CASES OF FECAL FISTULA FOLLOWING LAPARATOMY.

| Remarks.  | Constant irrigation was used in these cases, with the best success.  | ž   | writer.  The second case was caused by patient walking about on third day with drainage tube in wound.   |
|---|--|---|--|
| Vas secon-<br>dary lapa-<br>ratomy<br>made ?  | No   | Yes;<br>first,<br>twice<br>witho  | success. No  |
| Success or fail- of ure to cure by medical treat- meut.   | Medical No treatment successful. One healed No kindly: re-           | edi-  | Tube had no No adhesions Closed spon-No influence.  Cannot say Extensive Closed spon-No adhesions. tancously.  Soft tube Extensive tancously.  Soft tube Extensive First closed No adhesions. tancously.  Extensive Prist closed No adhesions. py medical fluence. both cases. second failed after making various in the particular failed after making various failed exam- |
| Character of<br>adhesions en-<br>countered.   | E. E.  | 2 cases.  | No adhesions Extensive adhesions. Extensive adhesions, Extensive adhesions hoth cases.   |
| Form of dis- Influence of Character of ease operated drainage tube adhesions enfor, in its cause.                 | , (  | Pyo-salpinx Tube was in No adhes and Tait's fluential in operation.   | Tube had no influence. Cannot say No tube used; no influence.  |
| Portion of in. Form of dis. Influence of Character testine in. ease operated drainage tube adhesions volved. for, | For extensive disease of appendages.                                 | Small intes- Pyo-salpinx Tube was in- No adhesions No retreature, and Tait's fluential in with moid flex- operation.  I case. |  |
| Portion of in-<br>testine in-<br>volved.  | 2 through rectum, 1 through descending colon.  Not known positively. | Small intes-<br>tine; sig-<br>moid flex-<br>ure.  |  |
| Time of appearance.   | 2 in first week, 1 in 10 days. From 1 month to 4.                    | 7 and 10 days.  | Third week. Large tine.  10 days Small tine. Second week Simal tine. 3 and 6 Sigmoi weeks. ture ar tum.  |
| Number<br>of cases.   | ස ස  | 2 (not<br>his<br>own).  | 0:   |
| Name of sur-Number<br>greon report- of cases,<br>ing case,  | Dr. C. C. Lee, New York. Dr. T. H. Manley.                           | New York<br>Dr. McLa-<br>ren, St.<br>Paul,  | Dr. Mann, Buffalo. Dr. Moseley, Baltimore. Dr. Palmer, Chreimati. Dr. Parish, Philadel- phia.  |

| 2000   |   |   |  |  |  |  |
|--|---|---|--|--|--|--|
| gestation, reported in Cincinnati Academy of Medicine Transactions   |   | Second case died from facial crysipelas.  | Second case reported   | by Dr. Sutton, of<br>Pittsburg.                                  | Dr. Wilson holds the opinion that the tube is largely instrumental in causing fecal fistula.                                     | Mr. A - Line over the show table of more will wood by the far the evented minhor of chooseful results ways |
| は変性の氏  | :   | Sec<br>fr   | Sec :  | 52   | Dr.  | 0011   |
| No   | No  | :   | No   |  |  | thou of  |
|  | No success No with medical treatment.   | Heuled spon- No<br>taneously.   | Healed spon- No<br>taneously.<br>Both cases No   | influence very exten leaded spon-<br>not known. sive, taneously. | First week. Small intes Ovarian tu-Tube instru-Adhesions Fistula never No tine. mortal in very extentions from causing fis sive. | arontoet min   |
| Extensive adhesions in all.  | Extensive adhesions.  | Extensive<br>adhesions,   | Extensive adhesions. Adhesions   | very exten<br>sive.  | Pube instru- Adhesions Fistula mental in very exten- Incalcd. causing fis- sive.   | hat her far th   |
| Tube instrumental in all the cases.  | Tube had Extensive some influ-adhesions.  | Sibroid tu. Tube used in Extensive mor and first; no in-adhesions, ovarian cyst fluence.                              | No tube used<br>Tube used;   | influence very not known. sive,                                  | Tube instructuential in causing fisturial.   | andily obour +   |
| through learning, tun, I rec- peritonitis, tun, 1 he- peritonitis, tun, 1 he- peritonitis, of colon. removal of removal of night kid- nev.   | General peritonitis.  | Fibroid tn. Tube use mor and first; no ovarian cyst fluence.  | Tubercular<br>peritonitis.<br>Double ova-  | riotomy.   | Ovarian tu-<br>mor.  | Him wood   |
| 2 through 2 tubercular Tube instru-Extensive First two ileum, 1 receptionitis, mental in all adhesions in died; thir tum, 1 he- cereptic the cases.  partic flexure gestation, 1 removal of right kid- right kid- right kid- | Cannot say  | Small intes-<br>tine.   | Small intes-Tubercular No tube used Extensive tine, peritonitis, adhesions, Pirst small Double ova-Tube used; Adhesions        | intestine, riotomy. second not known.                            | Small intestine.   | Louis table of   |
| 6 weeks,<br>5 weeks,<br>2 weeks,<br>2 weeks.   | 1 First week Cannot say General peri- Tube had Extensive tonitis, some influadhesions ence. | 2 First week Small intes-Fibroid tu-Tuhe used in Extensive fine, mor and first; no in-adhesione ovarian eyst fluence. | Second week Small intes-Tubercular No tube used Extensive peritonitis.  I in first First small Double ova-Tube used; Adhesions | week; second not lenown.   | First week   | 9 011  |
| 4  | -   | ÇŚ  | — c3   |  |  | 1  |
| Dr. Reamy, Cincinnati.   | Dr. Reeves,<br>Dayton,<br>Ohio.   | Dr. Sims,<br>New York.  | Dr. Sutton,<br>Pittsburg,<br>Dr. Thomas.   | New York.  | Dr. Wilson,<br>Baltimore.  | Mount  |

secured with medical treatment, and also that the results obtained by secondary laparatomy were certainly not encouraging. In the seventy-four cases reported, secondary operation for cure was made eight times; three proved successful, three were failures (the Note.—A glance over the above table of cases will readify show that by far the greates, number of successful results were

fistula not being found), and two died from the operation.

treatment. Mr. Weith inclines to the opinion that secondary laparatomy is seldom needed if the fistula is properly treated in its While in London last summer Mr. Skene Keith kindly gave me the notes of four cases that had occurred in the practice of his father. All had occurred in cases where extensive adhesions complicated the laparatomy, and all healed kindly with medical early stages

# CONGENITAL AMENORRHEA AND VICARIOUS MENSTRUATION.

BY

J. M. WITHROW, M.D., Cincinnati, Ohio.

It is quite generally stated, at the beginning of reports or papers on medical topics, that the subject is an unusually important one. In the present instance the beaten track must be left, for the subject is not of very great importance, though I trust it may be of sufficient interest to warrant brief consideration. The paper has been given a double name because the cases cited are instances of two unusual conditions.

The combination recited is so curious that the histories are given as far as they could be obtained, with the purpose of allowing the members of the Society to draw whatever conclusions might be suggested.

Case I.—Mrs. Harry C., æt. 48, is a perfectly developed woman, of excellent general health and more than usual vigor. There is nothing masculine in either her appearance or voice. She is the youngest of a family of seven children—one brother and six sisters. Her father and mother each lived to the age of 84 years, and their family histories present nothing of interest to the present inquiry, except that both sides multiplied on the face of the earth with unusual rapidity. At the age of 13 years she developed with the usual changes incident to puberty, but did not menstruate. She began to have epistaxis two or three times daily for two days, the bleeding occurring only during the daytime. These attacks recurred regularly every month for some time, and then every two, three, four, or six months at intervals, and again the period would diminish to one month. This nasal hemorrhage continued until she reached the age of 41 years, and has not occurred since. She never menstruated in the usual way, and no menstrual molimina ever accompanied the epistaxis. She

has been married twice, first at the age of 13 years and 2 months.

At the first coitus the rupture of the hymen was followed by such profuse hemorrhage that it was necessary to ligate the bleeding vessel. A physical examination showed the genitalia perfectly normal in every respect. The uterus was normal in size, shape, position, and mobility. The ovaries were normally impalpable. She never became pregnant, though coitus was enjoyed to a greater degree than women generally profess. The late Dr. Dandridge examined her during the early part of her vicarious menstrual life, and could not find any cause for the amenorrhea. She did not bleed from any other source than the nose, and was not troubled by hemorrhoids or any other evidence of pelvic congestion.

Case II.—Mrs. Martha B., sister of the preceding, died at the age of 50 years. She was twelve years older than Mrs. C., was perfectly developed in every way, and always enjoyed unusually good health. She never menstruated and never had any vicarious substitute that might have been suspected to be menstrual. She was married twice, enjoyed the sexual relation, but never became pregnant. She was examined several times by competent physicians, but no cause for the amenorrhea was discoverable.

Case III.—Mrs. A. S., æt. 42, is the daughter of the eldest sister of Mrs. C. and Mrs. B. She is in good health and is well developed in every way, and no anomalous condition of the reproductive organs can be detected. She never menstruated in the usual way, but has had quite regular epistaxis ever since puberty, which period was announced by the usual local development. In this case the bleeding from the nose occurs only at night for two or three successive nights at each attack. These attacks of vicarious hemorrhage occur with considerable regularity—generally every month, though at times the nasal menses are several months apart.

She has been married twenty-two years and has never been pregnant. With the exception of unfruitfulness, she discharges all the marital obligations with perfect satisfaction. She has two sisters, who are married and mothers.

The other sisters of Mrs. C. are married and have families.

Her brother, a well-known physician of Indianapolis, has three daughters, who are married and parous.

Vicarious menstruation is a subject which does not enjoy the full confidence of the entire medical profession. There are some medical authorities who believe the whole matter a myth, and that cases of so-called vicarious menstruation never bear the light of full analysis. In the discussion of Robert Barnes' excellent paper on this topic before the British Gynecological Society in April, 1886, quite a number of dissenters were found, chief among whom was Dr. Wilks.

In this discussion by far the greater weight of authority was in favor of the existence of this anomaly. The source of disagreement was twofold—the uncertain character of the cases put in evidence as instances of vicarious menstruation, and the lack of exactness in definition of the terms. The most generally accepted definition of menstruation is a periodical discharge of blood and endometrial débris from the uterus.

If we rigidly adhere to the terms of this definition, endometrial débris is essential to constitute a menstrual flow, and it goes without the saying that no synchronous or supplemental discharge of blood from other situations can be strictly menstrual. Under such limitation of definition it must be granted that true vicarious menstruation never occurs.

In the discussion referred to Dr. Moullin called attention to this point, and substituted the words vicarious hemorrhage for vicarious menstruation, since the hemorrhage could never be maintained to include the endometrial débris of uterine or normal menstruation. It is the purpose of this report, therefore, to limit the definition to vicarious hemorrhage or discharge—for there are many cases reported where the menstrual tension is relieved by discharges other than hemorrhagic in character. For instance, Whitehead reports a case where the menstrual flow was substituted by a regularly recurrent copious leucorrhea, and another where an equally regular recurrence of diarrhea represented Nature's effort at letting off the pressure in the circulation every month.

In regard to the uncertain character of the testimony in the cases adduced, it must be said that the evidence is in such abundance that the question of fact cannot now fairly be raised. The sceptics can only say that their unbelief rests upon the narrow foundation of a lack of personal acquaintance with a satisfactory case of vicarious hemorrhage.

Individual ignorance of a phenomenon does not disprove its existence. I never saw a leper, but I believe leprosy exists

just the same.

The synchronous heightened development of the thyroid gland and the breasts, with the readiness for function on the part of the reproductive organs at the time of puberty, shows the supplemental character of these organs. So we find changes in these organs occurring with menstruation. Menstruation, therefore, is not simply a function of the pelvic organs, but rather a systemic function, at least to a certain degree. It is common knowledge that the menstrual cycle precedes its culmination by increased blood pressure and greater instability of nervous tension. All the vital powers are raised to a higher plane. The vessels are fuller of blood, the pulsations are in greater force, the emotions are capable of greater enjoyment, the mental condition is susceptible of clearer comprehension, and just as the petals of the flower are brightest before the pollen falls upon the pistil, so the face is fairest and the countenance most animated just before the menstrual flood carries away the decidual débris.

In this increased vascular pressure we have the explanation for these rare cases of vicarious hemorrhage, which may be divided into two classes: first, those in which the vicarious hemorrhage is associated with the regular menstrual product from the uterus—that is, supplemental vicarious hemorrhage; and second, those in which the hemorrhage takes the place of the normal menstrual flow—substituted vicarious hemorrhage.

In any case it is not improbable, with this increased vascular tension as a preliminary, that we may have with one of the following abnormal states a case of vicarious overflow:

1. A condition of abnormally high pressure or vascular fulness, or, in other words, plethora to produce a vicarious hemorrhage from some *locus minoris resistentice*. Under these circumstances the discharge might be supplemental if the uterus were normal, or substituted if an infantile or dis-

eased uterus rendered the ordinary method of vent impossible.

- 2. Without more than ordinary pressure, some place of least resistance from insufficient tonicity or superficial position of vessel walls, as in the more vascular mucous membranes or diseased areas of skin, might allow the blood to be extruded.
- 3. In some instances there is the local destruction of vessel walls, as in vicarious hemorrhage from old ulcers, recent wounds, or diseased lungs.
  - 4. General disease of vessels, as in hemophilia.
- 5. Cases in which, from conditions of the blood or vessels, the vicarious vent is not hemorrhagic, but mucous or serous, as in the two cases noted by Whitehead. Again, it is well known that in some cases nearing the climaeterie, when the normal menstrual discharge is becoming smaller in quantity, less bloody in character, and capriciously irregular in appearance, localized edema, especially of the eyelids, sometimes occurs. Of the same character are those rare cases where recurrent attacks of erythema nodosum coincide with or substitute the catamenia.

The increase of instability of the nervous tension has been mentioned as one of the precursors of the menstrual epoch. In this connection—though not adduced as instances of vicarious menstruation—it is interesting to remember that there are cases where Nature, instead of emptying her carbonic and nitrogenous waste through the uterine sewage system, sets the muscles going in violent convulsions and thus burns up the excess of fuel in the surcharged vascular system by the intense muscular effort.

It has been offered in objection to the view of vicarious menstruation that these supplemental or substituted hemorrhages do not show the regularity of normal menstruation.

Their lack of perfect regularity is one of the strongest arguments in favor of their vicarious character, for we know that one of the commonest disorders of normal menstruation is irregularity. Nobody would call that discharge of blood from the uterus, which varies in some individuals from two weeks to six months, anything else than menstruation because of such variance. If the conditions are so aberrant in any case as to fail to drain the periodical engorgement of the cir-

culation in the usual way, it does not require a freak of fancy to imagine that it would not be regular in seeking relief in some unusual way. Indeed, I should feel, if a patient told me that the vicarious hemorrhage from the nose, for instance, came each time with lunar precision, that, like Desdemona, "she did protest too much."

The most frequent point of election for the vicarious hemorrhage is the mucous membrane of the nose. Next comes the stomach, then the intestinal canal, the conjunctiva, retina, and the ear. The skin sometimes is the point of discharge, and under this category comes that rare condition of hematidrosis blood-sweating. This phenomenon is a curiosity of leakage mentioned by Aristotle, but some well-authenticated modern cases are reported by Barnes, Van Swieten, and Gendrin. The throat, the lungs, the nipples, old ulcers, the bladder, the stump of ovarian tumors, etc., have contributed as sources of vicarious discharge. When we realize the periodical engorgement of the circulation, and such conditions of the uterus -whether natural or acquired, whether the result of deformity or disease—as prevent the relief of the vascular pressure, we must consider any form of vicarious safety valve which furnishes the necessary vent as a natural and wise conservatism.

It is in this consideration that we find the proper indication for treatment. Generally speaking, no effort should be made to stop a vicarious hemorrhage until the womb has been put into such condition as to freely relieve the catamenial vascularity. Where menstruation has at some time been uterine there is hope that the function may be re-established. It is here we should have recourse to all procedures which will promote the endometrial issue. Stimulating the uterus by proper emmenagogues, electricity, and the application of heat; abstracting blood from the cervix by cupping, scarification, or leeches, is indicated at such time as the menstrual cycle has reached its flood tide of pressure. Only when the resumption of function by the uterus has fully occurred, or in cases of supplemental vicarious hemorrhage, is treatment of the local point of abnormal issue indicated. In cases of hemorrhage due to generally increased pressure, such systemic hemostatics as ergot. hamamelis, gallic acid, hydrastinin, etc., are to be employed. Either in addition to these or

instead of them, local astringents or styptics may be employed when the source of bleeding is within reach of topical treatment. For instance, alum or iron may be applied to the gums or Schneiderian membrane, if necessary, or nitrate of silver with acetate of lead exhibited in cases of hematemesis.

As to those cases where there is some fault in the uterus, which has at some time shown its ability to menstruate wholly or in part, we may conclude with Robert Barnes "that vicarious menstruation constitutes a chapter in the history of amenorrhea and dysmenorrhea. Therefore we must first seek in this history for the causes of the obstructed menstruation. A large order of cases of dysmenorrhea and amenorrhea are due to mechanical obstruction; among these are atresia of the vagina, atresia of the cervix uteri, and acute flexion. Relief follows the removal of the obstruction."

The condition of congenital amenorrhea noted in the three cases reported is a very unusual one. Neither of these women ever menstruated, though two of them found vascular relief in vicarious epistaxis. Neither of them ever became pregnant, but all of them enjoyed the sexual relation. As was stated in the report, I had the opportunity of examining only one of them, and was unable to find anything in the least abnormal; therefore any discussion of the physical cause of the amenorrhea would be an indulgence in speculation which this occasion does not warrant. The fact that two sisters and the daughter of another sister present this very rare anomaly is sufficient to justify the inference that the cause is transmitted by heredity. That they never menstruated would probably indicate to Mr. Tait's followers that they had no Fallopian tubes, while that fact and the sterility combined would lead everybody to conclude that they never ovulated, and, if they never ovulated, then they had no ovaries. But I am engaging in speculation, which I intended to avoid. Still, I may add that, as the uterus in the case examined was normal, it may be inferred that the organ was in proper form in the two cases not examined by me personally. So far as this inquiry has gone, literature offers no light upon the subject, but it is to be hoped that this report may lead to such a collation of ex-perience on the part of members of this Society and others that some valuable facts and deductions may be elicited.

300 West 7th St.

## TUBERCULAR SALPINGITIS, WITH CASES TREATED BY OPERATION.<sup>1</sup>

BY

J. W. ELLIOT, M D., Boston.

(With colored plate.)

According to Winckel the Fallopian tubes are always involved in tuberculosis of the genitals, and in about one half of all the cases they alone are affected. Primary tuberculosis of the tube is rare, the most common cause being coitus with a tuberculous man or infection by instruments, fingers, etc. The germs may then spread through the genital tract, and the tubes are an especially favorable seat for infection on account of their numerous folds, their narrowness, and their delicate epithelium. The tubes may be secondarily affected by the spreading of the tuberculous process from other organs either through the blood or by direct extension. In this way intestinal tuberculosis may cause tubercular peritonitis, and tubercular peritonitis may in turn cause tubercular salpingitis, or vice versa.

Case I.—Miss D. entered the Massachusetts General Hospital in June, 1888, and gave the following history: She was 25 years old and a native of Nova Scotia. None of her brothers or sisters had had lung trouble, but there was consumption in her mother's family. The patient was pale and thin, and had grown rapidly. Menstruation began at 13. Seven years previous to entrance she had had amenorrhea lasting seven months, during which time she was weak and had indigestion with chronic diarrhea. When menstruation began again she had pain at each period. Three years before entrance she began to have pain in the region of the rectum and still more dysmenorrhea. This pain was most severe

<sup>&</sup>lt;sup>1</sup> Read before the Boston Obstetrical Society, December 12th, 1891.

during the first day or two. It would cease suddenly, usually in the night, and was immediately followed by a brownish, foul-smelling discharge. She had been treated for retroversion.

On examination a mass the size of an egg was found in the pelvis behind and to the right side of the uterus. The mass was firmly adherent to the rectum and immovable. The uterus was moderately movable. The mass seemed to be tubo-ovarian, but it had an entirely different feel from the ordinary cases. It seemed to have infiltrated the surrounding tissues rather than to have been glued to them by adhesions. It was not tender.

On June 22d the abdomen was opened by the ordinary median incision. The mass was found to be the right Fallopian tube. It was studded with tubercles, as were the uterus and left tube, though to a less degree. It was removed as close to the uterus as possible. There was considerable bleeding from the torn adhesions, so a glass drainage tube was left in the pelvis. The thickened tube was doubled on itself and filled with cheesy pus, forming a mass as large as a hen's egg. (See plate.)

Dr. Whitney, the pathologist of the hospital, kindly fur-

nished me with the following report:

"The tube was very much thickened and the cavity dilated, and adherent to its end was a hard, rounded body supposed to be the ovary. Section through the uterine end of the tube showed a marked thickening of the wall, and scattered through it were small accumulations of round cells; beneath the peritoneal surface there were minute round masses of small round cells with a tendency to cheesy degeneration, and lying among them were scattered large multinucleated bodies (giant cells). The membrane lining the tube at this part was thickened, but otherwise not abnormal. . . . The portion attached to the ovary (!) showed an extreme thickening with cheesy masses in the interior and foci of round cells, cheesy degenerated, with occasional giant cells. No ovarian structure was found. . . . The process is a tubercular salpingitis and peritonitis probably involving the ovary."

The patient made a good recovery. The drainage tube



UTERINE END OF TUBE

EXTERNAL END OF TUBE



was removed on the second day and the stitches on the tenth, when the wound was found to have healed by first intention.

I have delayed publishing this case in order that sufficient time should have clapsed to suggest the possibility of a permanent cure. It is now three and one-half years since the operation, and I have seen the patient occasionally during this time. She has not only remained well, but has steadily improved in her health. I will quote from a letter recently received from her: "I am happy to say that I am twice as well as I was last.spring when I wrot? you. My courses are regular and seldom painful. I have no pain on either side, and I am stronger than I ever was in my life. I play a heavy organ in our church twice on Sundays and two evenings during the week. I have done that these last six months. The church is two miles from here, and I often walk down instead of driving."

Case II.—Miss R. entered the Massachusetts General Hospital on May 29th, 1890. She had begun to have constant pain in the lower abdomen two months before entrance, and on April 10th Dr. Mead, of Everett, had attended her in an attack of pelvic peritonitis which lasted two weeks. The pain continued, especially in the right side. On May 20th the temperature rose to 102.5°, and an examination revealed a tender mass to the right of the uterus. On the 27th the temperature was 103.5°, with chills and vomiting. The catamenia had occurred regularly and normally.

She was 20 years old and a native of Nova Scotia. Nothing could be learned from the family history. Her general

appearance was fairly good.

Examination by Dr. Homans showed the abdomen moderately distended and tympanitic, except in the right inguinal region, where percussion showed marked dulness as compared with the other side. There was exquisite tenderness over the area of dulness.

With rest in bed the patient slowly improved. After one week there was much less pain, but the temperature remained at about 100°. In three weeks the condition was much the same.

On June 20th I took charge of the hospital wards for Dr. Homans. I found a hard mass about as large as an orange in

the right lateral cul-de-sac, apparently in connection with the uterine appendages. The mass was firmly fixed.

June 26th, the right ovary and tube were dug out of a dense mass of adhesions. The tissue between the tube and the pelvis had become so degenerated that the bone was actually scraped with the finger nail. The tube was ruptured and considerable pus escaped into the abdominal cavity. It was thoroughly sponged out and a glass drainage tube placed in the hole from which the mass was torn.

The tube was not thickened as in the first case, but consisted of a series of thin-walled sacs about the size of walnuts, which were filled with pus and cheesy material. Dr. Whitney, pathologist, reported that the process was undoubtedly tuberculous.

The patient made a rather slow recovery. On June 28th the discharge from the drainage tube was noticed to have a fecal character. A fecal fistula was established, which was frequently washed out, and finally closed on July 10th.

July 26th the temperature rose to 102° with headache. No local cause could be found for this disturbance, which subsided in a few days. The patient was discharged from the hospital in fairly good condition.

On September 16th, having previously been feeling pretty well, she was taken with severe headache and vomiting. These symptoms continued with great severity, and finally the feeal fistula was forced open. The temperature varied between 100° and 102°.

September 26th she re-entered the hospital under Dr. Cabot. She was semi-unconscious and did not recognize familiar faces. There was marked general hyperesthesia, ptosis of the left lid, dilatation of the left pupil, and photophobia. The pulse was 80°. Vomiting, headache, and eyeache continued. The diagnosis of tubercular meningitis was made. Her condition became steadily worse, and she died on October 1st.

The autopsy showed tuberculosis of lungs, kidneys, spleen, and liver, also tubercular meningitis, pleuritis, and peritonitis.

Besides the above cases I have had opportunities of seeing this disease in the later stages. Tuberculosis of the tube, irrespective of a general infection, may spread by direct extension or by rupture of cheesy degenerated spots in tubes filled with pus. This last gives rise to a pelvic abscess, or more commonly to an abscess just above the pelvis. Such cases of circumscribed tubercular peritonitis are usually chronic in character and have a thick wall. I have seen six cases of this variety. When opened and drained these cases usually improve very much at first, but the sinus is slow to heal and the case drags on much like an old hip disease. Two of the six cases referred to were apparently well when last seen; one died; one, after two years, still has an unhealed sinus; the other two have been lost sight of.

If left unoperated on, these cases die of purulent peritonitis or general tubercular infection. I saw such a case in consultation in 1888. The patient, a young lady, had noticed a tender tumor over the pelvis six months previous, and was dying of purulent tubercular peritonitis and tuberculosis of both lungs.

When the tubercles spread over the peritoneal surface, clear ascitic fluid is usually formed and we have the ordinary tubercular peritonitis. In such cases, where the tubercles are found on the otherwise normal tubes as well as on the other organs, it is difficult to determine whether the disease has extended from the tubes or from some other organ, notably the intestines. The general arguments in favor of its tubal origin are that tubercular peritonitis is much more common in women than in men (Fehling' found that out of forty-two cases collected only two were in men), while genito-urinary tuberculosis is even more common in men than in women: also, the Fallopian tube is by far the most common seat of chronic tuberculosis in the female genitals.2 On the other hand, a great many cases of tubercular peritonitis have been cured by operation without removing the tube; I myself's have reported such a case, which has now remained well four While this point remains unsettled, suspicion must

<sup>&</sup>lt;sup>1</sup> Centralblatt für Gynäkologie, No. 45, 1887.

<sup>&</sup>lt;sup>2</sup> According to Winckel, Hennig found it in the ovaries six times; right tube, fifteen times; left tube, twelve times; uterus, twelve times; vagina, twice. Geil never saw it in the ovaries, but found it in the right tube forty-four times; left tube, forty-two times; uterus, thirty-five times; vagina, once.

<sup>&</sup>lt;sup>3</sup> Boston Medical and Surgical Journal, May 17th, 1888.

always rest on the tube. Hegar has suggested that the tube should be removed, in cases of tubercular peritonitis, if there is any indication that it was the primary seat.

Werth¹ says that two forms of tubercular salpingitis should be distinguished. One form is a part of general tuberculosis, the other might be called chronic tubercular inflammation. In the first both muscular and serous coats undergo a cheesy degeneration, bacilli being found in the interior of the tube in great numbers. In the second the tube wall undergoes hypertrophy and cell infiltration and contains only a few bacilli.

The two cases here reported are examples of these two forms, the first representing the chronic variety, and the second the acute. The first of my cases has remained well for three and one-half years, which is longer than any recorded case, except perhaps one of Hegar.<sup>2</sup> The second died in three months of general tuberculosis.

Of course the chronic variety will give the best results; in fact, it is useless to operate on a case already secondarily infected, unless the process in other organs is quiescent. It is, however, often impossible to determine if the disease is purely local.

As to the diagnosis of tubercular salpingitis, the general phthisical appearance of the patient, together with chronic tubes not very tender but firmly fixed by infiltrating adhesions, are the main points. The bacillus should be looked for in the vaginal discharge in all suspected cases. Hegar lays stress on being able to find, by bimanual examination, wreathlike masses of firm nodules about the size of small nuts.

Summary.—1. There is hope of curing a patient with tuber-cular salpingitis.

- 2. The operation should be done as early as possible.
- 3. If the tube has ruptured and an abscess has formed in the neighborhood, there is still a possibility of cure; in such cases, besides draining the abscess, a reasonable attempt should be made to remove the tube.
- 4. In operations for tubercular peritonitis the Fallopian tubes should always be examined, and removed if they contain pus or in any way suggest that they are the starting point of the disease.

<sup>&</sup>lt;sup>1</sup> Centralblatt für Gynäkologie, p. 499, 1889.

<sup>&</sup>lt;sup>2</sup> Id., p. 70, 1888.

## CLINICAL OBSERVATIONS ON OCCIPITO-POSTERIOR VERTEX PRESENTATIONS.<sup>1</sup>

BY
S. MARX, M.D.,
New York,

My reasons for discussing informally the etiology, and more particularly the treatment, of persistent occipito-posterior positions, is their comparative rarity, occurring, as they do, in but a small number of vertex presentations. The practitioner is therefore taken unawares, and faces too often, even among this small number, what I consider a rather perplexing and sometimes an almost insurmountable complication. Were the cases more numerous, the laws of treatment would likely be more fixed in our minds, consequently simpler, and the acconcheur would have the modus operandi at his fingers' ends. Skill in obstetrics depends upon the ability to act on the instant, to do what we have to do accurately and heroically at the proper time, and to cope with emergencies. A certain well-known writer, speaking of persistent posterior vertex cases, says: "Were I asked to state what in obstetrical difficulties has caused most fetal and maternal deaths, more severe accidents not necessarily fatal-accidents making the rest of life worthless, or, still worse than merely worthless, a tragedy-I would say occipito-posterior positions where the occiput has rotated into the hollow of the sacrum, and which have been improperly treated." In my opinion he overrates the condition, but in some few cases, and these very few, his words are but too true and graphic—cases that are treated without regard to the exact position of the head, without regard to any fixed mechanism, the object of the practitioner being merely to show his prowess and strength in getting that particular head out of the pelvis. It is certainly woful to the woman where this occurs, and I am positive my words are neither exagge-

<sup>&</sup>lt;sup>1</sup> Read before the Metropolitan Medical Society, November 11th, 1891.

rated nor pessimistic. The accoucheur tugs and pulls, makes lateral traction with boring movements, and finds no advance. Were he to take off his instrument and examine, he could hardly fail to make out the cause of his fruitless exertions. But no, he persists, pulls all the harder; sweat starts from every pore; he is pale and exhausted from sheer physical and nervous exhaustion, but he still persists, until the head, still enclosed in the grasp of the forceps, with a sudden jerk lies in the bed, the woman torn completely through. Thus, as I have quoted above, a tragedy is begun.

Occurrence.—In looking over the German literature of the subject—that contained in the Centralblatt für Gynäkologie—I find very few articles written on this subject since 1887, thus showing the comparatively infrequent occurrence and the lack of interest in this particular complication. Naegele's statistics put the number in which forward rotation does not occur as 17 out of 1,244 posterior positions; West, who has written a valuable monograph on this subject, 79 in 2,585. Of my own cases, 11 in all, of occipito-posterior positions, all rotated by manual or instrumental manipulations except two cases; here delivery was accomplished as posterior vertex cases by means of the forceps.

Causation.—Non-rotation of the head into the anterior position depends upon the fact that complete flexion of the head does not occur. Where this is absent rotation cannot occur. This condition may be due to misdirected uterine action, the result of: 1. Pendulous belly. 2. Right or left displacement of the uterus. 3. It may be due to a disproportion of the head and the pelvis, usually where the head is rather small than large. 4. Next to an enlarged thymus gland, which absolutely prevents perfect flexion of the head. 5. Then an abnormal flexibility of the spine, which either does not transmit the uterine force in the proper direction at all, or does so very imperfectly. 6. Another cause referable to the fetus, and to my mind the most potent factor, is a dolichocephalic skull. In these cases the articulation of the spine with the skull occurs in the centre of the base of the skull instead of posterior to this centre, so that you do not get the long arm of the lever in front of the spine. This latter condition is the typical dolichocephalic skull. But in

normal insertions, where the long arm of the lever is in front of the foramen magnum and the short arm posterior to it, when labor begins to set in with any degree of vigor, and equal forces are impressed on both the long and the short lever, perfect flexion of the head occurs. In these abnormal skulls, where leverage is equally divided, you get neither flexion nor extension, whether perfect or imperfect—nothing but a seesaw motion. 7. Lastly, absent or immature ischial spines. These are important factors in the rotation, acting, as they do, as a wedge in throwing the occiput forward.

The vertex can never be rotated unless the occiput be the lowest point in the pelvic canal, and so acted upon by the force above, the uterus; the resistance from below, the pelvic base or perineum; and the turning point, the ischial spines, acting between these forces. An exception to this rule would be in those cases where you get no resistance from below, as in a case with absent perineal body. Here rotation, as a rule, will not occur. In the case of a very small-sized and very light-weight fetus we get no regular mechanism of labor, even with all conditions favorable. It simply passes through the pelvis as rapidly as possible.

Prognosis.—The dangers to the mother are: 1. From the prolonged labor, exhaustion. 2. Bruising, crushing, and sloughing of the maternal tissues from prolonged pressure of the head and fruitless application of the forceps. 3. Almost invariable and unavoidable lacerations of the perincum, especially from the forceps, as it is very liable to slip in this class: of cases. I have spoken to obstetricians, men well versed in their specialty and of high standing with their colleagues, on the subject of perineal tears, and I have vet to meet the first one who has not had lacerations, either small or large, in almost every case. And the reason is certainly very evident when you imagine the large occiput sweeping over the perineum, putting it enormously on the stretch. You simply substitute the long occipito-frontal diameter of five inches in posterior cases for the suboccipito-bregmatic diameter, which is about three and three-quarter inches, in anterior vertex cases. 4. Operative interference always directly increases not only the morbidity but also the mortality in the parturient woman.

The dangers to the child are: Death from cranial pressure,

fracture of the skull, lacerated wounds of the head, subdural hemorrhage and subsequently a complicating meningitis, or a condition worse than death, a living death according to neuropsychologists—a permanent idiocy—all this due to the forceps, even if used with the greatest care and circumspection. From attempts to rotate the head, with instruments or manually, there is a danger not to be overlooked, namely, one is liable to break the child's neck. In one of my cases I had a facial paralysis to deal with, which was fortunately temporary. In this case, as well as one other which was delivered occipito-posterior with the forceps, a very pronounced jaundice was present, which only disappeared after a long time.

Termination.—Primary posterior vertex cases may terminate in one of four ways: 1. Persistent in the posterior position, which is not favorable. 2. Rotation into a vertex anterior; this certainly is the most favorable, and occurs in a great number of cases. 3. The next most favorable termination is the transposition into a face case, chin anterior, for the reason that it is the analogue of the vertex anterior. 4. Brow presentation, the most unfavorable ending. The last two presentations are due to faulty and misdirected manipulations on the part of the obstetrician.

Diagnosis.—In most cases the diagnosis in posterior vertex cases, in fact in all vertex presentations, is very simple. But, in a few cases, looking for suture and fontanel is not only exceedingly difficult but sometimes impossible. To confuse you in these cases, which are as a rule very much prolonged, you get a very large caput which completely cuts off all hope of finding familiar landmarks. You might encounter a prematurely ossified skull or the presence of a number of Wormian bodies to further confuse you. A very thick or partly dilated os uteri would hinder your investigations. Abdominal palpation might help you out, but it is not positive, especially where the woman is very fat or a large amount of liquor amnii is present. When I am in doubt I invariably pass up a finger as high as possible and feel the ear; that tells the story, the back of the ear always pointing toward the occiput.

Treatment.—In some cases, especially in multiparæ with small babies, we have a birth with a persistent vertex posterior. This, I believe, occurs as a result of powerful pains,

tardy first stage, and a rapid second stage, especially in multiparæ of strong muscular development. This occurred in one of my cases, a powerful young Irishwoman, a multipara, with a very rapid labor. Now, further, when you examine a woman in labor and find the head presenting with the occiput posterior, and feel that the posterior fontanel is lower than the anterior in the pelvic basin, that the head is fully flexed, and if, with this perfect flexion, your examination reveals prominent ischial spines, do nothing further, but place the parturient on either the right or left side—corresponding to right- or left-sided position of the occiput -- to further favor rotation, and in a great majority of cases rotation will occur. Even without postural treatment rotation will usually occur when perfect flexion is present. This variety of expectative treatment I undertook in four cases—two were multiparæ and two primiparæ—with good result. When rotation takes place it usually occurs low in the pelvic basin. But in some cases, in spite of these maneuvres, the head remains high and shows no tendency to advance, consequently rotation does not take place. This happened in two of my cases. In the first case a multipara presented a vertex left occipito-posterior just engaging at the brim. Palliative treatment was of no avail; this was due, very likely, to the fact that the previously vigorous pains had died out when the os uteri was about threequarters dilated. To actively stimulate the pains forty grains of the sulphate of quinine were given per rectum and the membranes ruptured. This only temporarily increased the pains, but did not materially affect the position of the head. I then applied the forceps, with the head at the brim, and very easily and rapidly delivered the child. But during the traction the head made a complete rotation, carrying with it the forceps, so that when the head rested on the pelvic floor the convexity of the blades looked directly towards the symphysis. The forceps was inverted, such as Pajot would have us apply it in difficult posterior cases. It was removed and again applied to an anterior vertex. Now, in the second case, that of a multipara presenting a vertex in the right occipito-posterior position and high up, palliative means were tried and failed, probably because of an extremely tense os uteri. The high forceps was applied and the delivery

proved extremely difficult. On account of the immense size of the head, the handles of the forceps could not be approximated enough to give me a good purchase. I had just begun to draw the head down, and on attempting to guide the head into rotation the forceps slipped and tore the previously lacerated perineum of the first degree to the second degree. The head now rotated into an anterior vertex spontaneously and was normally delivered.

Another way of treating this class of cases is by flexion. To accomplish this I pass two fingers, if necessary the whole hand, over the occiput and so forcibly flex the head—in other words, approximate chin and sternum. This is to be advised in those cases where no advance takes place, where the head is evidently seesawing at the pelvic brim. During this manipulation, if great care be not exercised or if we do not keep thoroughly fixed in our minds the object of this maneuvre, we may, by a faulty movement of the head by the hand, do more harm than good by converting this position of the head into a brow by a movement of partial extension instead of flexion. I mention this from the mere fact that I once saw it done by a medical friend. Should this occur, and rectification be impossible, by exaggerating the movement of extension you may convert an unfavorable condition into a favorable one—a mento-anterior face case.

We now come to another method of treatment, viz., by forcible rotation, either manual or instrumental. Both these methods were tried in the case of a 19-year-old primipara who presented a fetus in the left occipito-posterior position. The head engaged at the superior strait. Forced flexion with two fingers was first tried and failed to give the desired result. The full hand was then introduced, the head grasped in the palm, pushed up as high as possible, and an attempt made to rotate the whole head into an anterior position. I easily succeeded in turning, but to my surprise, on examining shortly after, to find the head firmly engaged, not as an anterior vertex, but again in the posterior position. As there was no decided advance, and as the fetal heart dropped to eighty beats per minute and became irregular, I was compelled to hasten delivery. I then attempted to forcibly rotate the head (now well down in the pelvis) with

Simpson's forceps, but failed on account of its pelvic curve, which materially hindered a rotary motion. I then applied a pair of short, straight forceps, like those used for lifting the head over the perineum, turned the head into an anterior vertex very easily, and delivered without any trouble.

Lastly, delivery by the forceps as posterior vertex cases. On account of the great disproportion between the occiput, the presenting part propelled, and the perineum, the resisting force, and the forced flexion the head undergoes in passing the pelvic outlet over the perineum, the delivery is sometimes very difficult indeed, and in a few cases entirely fails and compels us to destroy the life of the child in order to save that of the mother. In such cases we should never hesitate to perform craniotomy, after the forceps has been carefully and faithfully tried—certainly never where the child is dead. In two cases delivery by the forceps was accomplished after all methods of version and position had been tried and failed. Both of these cases were very trying ones. In the one I had the kind assistance and advice of my friend Dr. Henry C. Coe. The other was further complicated by a partially prolapsed hand, which evidently hindered the muchwished-for rotation. In both I got deep perineal lacerations -one due to the very large occiput plus the partly prolapsed haud, where the perineum tore more when I attempted to deliver the firmly wedged elbow; the other due to the head, pure and simple, in spite of the utmost care and deliberation in delivery and a carefully done bilateral episiotomy. These cases should be delivered when the head is low down, by a pair of short, straight forceps without any pelvic curve whatsoever. Then extraction is much simpler than with a pair having a marked pelvic curve. Should, nevertheless, the latter be used, see that it fits the head uniformly and snugly. Remove it when the forehead is well under the symphysis, or when you can feel the root of the nose well under the pubic arch, or, more properly speaking, right behind it. Now reapply it; see that it again adapts itself accurately, that it does not project beyond the head for even a short distance; be sure of your grasp; lift the handles of the instrument directly into the third position, increasing the flexion by these means, and furthering it by pressure with the thumb against the

auterior head, the index finger in the rectum assisting in lifting the occiput over the perineum. In every case an episiotomy should be done, so as to save the perineum an irregular tear; or its substitute, the deep perineal incision, as advocated by Dührssen in rapid deliveries, might be of signal assistance in saving deep central lacerations.

1111 LEXINGTON AVENUE, December 8th, 1891.

A LETTER TO MY ASSISTANT ON THE METHODS OF SECURING ASEPSIS IN THE PREPARATION OF INSTRUMENTS, LIGATURES, AND DRESSINGS IN MY PRIVATE OFFICE.

BΥ

HOWARD A. KELLY, M.D.,

Professor of Gynecology and Obstetrics in the Johns Hopkins University.

Difficulties in the Way.—As you daily observe in my clinic at the hospital, the work of preparing for operations has acquired the simplicity of all routine duties. To this end a specially constructed room is fitted with the many facilities called for in securing an aseptic technique and maintaining it throughout the various gynecological operations performed there. To this end there are a large number of porcelain and glass vessels, glass-top instrument tables, and basins with a superabundance of sterile hot and cold water, large glass storage jars, steam sterilizers, metal and glass-top operating table, while the room itself is so constructed, with its hard, bare walls, rounded corners, and tile floor, that any amount of water can be poured over its surface at any moment without inconvenience.

In a private house, on the other hand, you have noted the difficulty of appropriating a special room to such a purpose, and, owing to the presence of carpets and dry air in dwelling houses, and proximity to the street, the very atmosphere is relatively loaded with dust. The abundance of sterile water conveniently disposed for use on hands or instruments is notably absent, and in the necessity for repeated contacts with

substances whose status (bacteriologically) is outside our ken lies a constant source of danger liable at any moment to negative our previous efforts. Among the inconsistencies which thus seem a necessary part of this environment are, for example, the frequent handling of the water pitchers, turning on the spigot, opening doors, pulling out drawers, unlocking cases, lifting off covers, picking up basins, laying towels down on table or chair, etc. In short, the crucial difference lies in the fact that in the hospital room everything connected with the immediate preparation for the operation is absolutely free from suspicion, while all other articles lying just outside this range are comparatively safe. In private, on the other hand. the feeling that the work is being so differently conducted, under circumstances so suspicious, hangs like the pall of a heavy sin upon the conscience, to which, in its morbid sensitiveness, every contact seems loaded with infection.

It is now my object in this letter to instruct you how such preparations may be conducted at home as thoroughly as in the hospital.

In the first place, it is important that every article which may be wanted should be close at hand where it can be reached in a moment without opening doors, unlocking cases, or undoing packages. It is, therefore, important to carry out the whole work of preparation in one room, unfurnished and with a bare floor, which must be wholly or almost entirely given up to this purpose.

It is safer to keep instruments, etc., in an instrument case, suitably packed, ready to be picked up at once when the call comes to operate. No instruments or dressings can be considered aseptic which have been gathered in haste from shelves and closet to meet an urgent call.

The only consistent course is previous careful preparation at a time when you are not hurried.

I will describe the preparations I wish you to make under three headings:

- (a) Getting ready to sterilize the instruments and dressings.
- (b) Sterilizing hands, instruments, and dressings.
- (c) Storing away the sterilized instruments and dressings.
- (a) Getting Ready.—Take off your coat, roll your sleeves above the elbows, and put on a clean white apron. Scrub

your hands vigorously with soap and water for a minute, then proceed to arrange cases, boxes, packages, tables, basins, pitchers, so that you will be able to put your hands at once on every article wanted, with the least possible amount of contact with any other substance whatever. Every unnecessary contact of this sort you will look upon as a contamination and a technical error on your part, one which, in its consequences, may prove most serious.

It is true that the chances that any single contamination will be applied directly to the patient, and that that contamination will chance to carry pathogenic micro-organisms, is very small, but you are now dealing with principles and dare take no liberties. Moreover, I have observed that only those operators and assistants have a proper idea of the relations of micro-organisms to wound infection who strenuously endeavor to preserve an ideal aseptic condition throughout. There are no half-way operators. It is further remarkable how slow good theorists are in thus giving practical expression to the creed they profess.

Time and constant immersion in the work alone develop a technique, constantly under the keen criticism of the worker himself, which is at length perfect. This works coincidently a wondrous change in the mental attitude towards the paraphernalia of an operation, best designated as an antiseptic conscience.

As soon as you have given your hands the preliminary washing spoken of, make the following arrangements so that you can go ahead without delay. On the low bench, eight feet long, place four basins, the soap box, and a shallow dish containing the hand brushes floating in a five-per-cent carbolic acid solution, and another with squares of gauze (six inches) for eatching hold of handles, etc. Fill the large agate-ware reservoir with six gallons of hot water, and place by the bench the large nine-gallon reservoir of agate-ware for the waste water.

Close by stands a common kitchen table with a plate-glass top, and by this stands the instrument case wide open. The sterilizer (Arnold's) is on a stand in one corner. Proceed by filling basin No. 1 with hot water (110° to 115° F.). Make five hundred cubic centimetres saturated solution of potas-

sium permanganate (five per cent) in basin No. 2, and a saturated solution of oxalic acid in basin No. 3, and add plain hot water again to basin No. 4.

(b) The Sterilization.—From this time on you must be very careful. Scrub the hands for five minutes (measured by the clock) in basin No. 1, changing the water three or four times. Then take the instruments out of the case and place them in a large oval basin on the bench, and scrub them thoroughly in hot water with sapolio. Finally rinsing them with

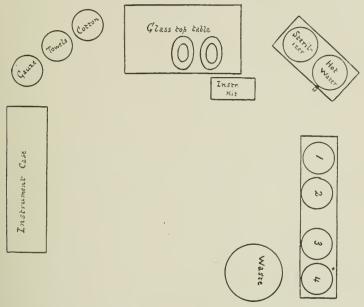


Figure showing arrangement of room in private house for sterilization and preservation of instruments and dressings.

warm water, lay them, still wet, on a clean towel on the glass-top table.

If it is necessary to prepare ligatures for the next operation, they should now be unwound from the skein, and cut and wound on glass reels, and put in the author's extraheavy glass tubes lightly corked with cotton (after Dr. Halstead's method), or in stout little muslin bags with a draw-string, ready to be placed in the steam sterilizer. The ligatures ought not, however, to be handled at the same time the instruments are cleansed and sterilized. They should be

prepared previously alone and in bulk, enough to last several weeks or longer. Sponges should also be prepared in quantity at a special time when no other work is on hand. The sterilizer should have been started by pouring sufficient hot water in the pan just before beginning to wash up.

The instruments wrapped in a towel, the ligatures in glass tubes with loose cotton stoppers, bandage and cotton, should now be placed in the sterilizer, together with some bags about to be described, laid in a larger bag, and the cover of the sterilizer put on. They are now left steaming for a half-hour, taking care that the water does not boil out, leaving a dry pan.

In the sterilized bags mentioned, the instruments, cotton, and bandage and towels are placed after sterilization, and stored in the operating kit or satchel. They remain thus in the satchel and in the bags, as it were hermetically sealed, until the draw-string is loosened and they are taken out at the operation at the patient's house.

I consider the use of these bags a very important addition to my technique in private practice. They are made of heavy butcher's linen, twelve by six and twelve by eight inches. A number of them are rolled up and put in two or more large bags at the time the ligatures are sterilized, and when bags are wanted for use the large bag is opened and several are taken out. By preparing them beforehand we thus avoid storing the instruments in damp bags just taken out of the sterilizer. From six to a dozen towels are sterilized in like manner and kept in bags also, to be taken out when wanted. either in the preparation room or at the operation. They are thus preserved just like the ligatures. The cotton, bandage, and towels, if sterilized with the instruments, should not at once be packed away with them, but should be put in these bags on a shelf in the case, and the dry dressings prepared at a previous time taken out and put in the kit; if necessary, these dressings may remain on the shelves over night and be put in the operating case the following morning.

While the steam sterilization is going on the assistant should completely disinfect his hands by immersion in the saturated solution of permanganate of potash until they are stained a uniform deep-red color, then at once decolorize with the oxalic acid solution and wash this off in the last basin of hot water. After one-half hour the instruments are lifted ont of the sterilizer while steaming hot, as they then rapidly dry of themselves. Lay them on a towel on the glass-top table, and dry them carefully with a sterilized towel, looking particularly to the joints, leaving no trace of moisture.

(c) Packing Away.—Finally lay them in the dry sterilized bags, arranging artery forceps (if numerous) in one small bag, larger instruments in one or two others, and knives in a little metal case. The cotton, bandage, and towels are already in closed bags. Lay a sterilized towel in bottom of the telescope case, which is the best sort of a portable instrument case; put everything in and lay a towel over the top, and close the telescope, when all is in readiness to be picked up the moment a call comes to proceed to the operation.

## CASES REQUIRING ABDOMINAL OPERATIONS

In the service of dr. j. f. w. ross at the toronto general hospital during the summer of  $1891.^{\circ}$ 

(With illustrations drawn from the actual specimens.)

In these days of sprays and batteries, and sterilizers and elegant operating rooms, the professional mind is, unfortunately, too apt to run off at a tangent. I began my surgical work under the vapor of the spray. The patients recovered, and I felt that it would be dangerous to operate without the horrid nuisance. But the spray taught its lesson, and even after I found that I could open an abdomen or take off a breast without it I clung tenaciously to the dressings of protective and gauze. After becoming a pupil of the muchabused Mr. Lawson Tait, I thought that Mr. Tait was wrong and that the surgeons on the other side were right. I was horrified when I saw him put a pad of cotton wrapped in gauze over the mouth of a drainage tube placed in the abdo-

<sup>&</sup>lt;sup>1</sup>These telescope bags are very cheap and most serviceable. They cost from \$1.20 to \$1.60, according to size.

<sup>&</sup>lt;sup>2</sup> Read before the Toronto Medical Society, December 10th, 1891.

men. I felt sure that he was wrong when he lifted off the pads from his wounds as soon as they were a little soiled, and thus exposed the wounds to the terrible germ-laden air. I had been in the habit of using a piece of rubber dam and a sponge over my drainage tubes in the abdomen, but not over drainage tubes anywhere else. I used this dressing because Keith used it. I used cotton moistened with glycerin and carbolic acid over the wound because Keith used it. I agreed with Tait when he said that abdominal operations should not be done in a general hospital. I was a pupil in Germany when the operating room was almost flooded with water, when every one present was obliged to disrobe and dress in garments provided. And still the patients died. On my return I dared not follow Tait. Our hospital reeked with iodoform, and the populace became so accustomed to the smell that they did not seem to mind it. You met it in the street cars and on the street. Every fresh wound was now dusted with iodoform. A year before every fresh wound was buried beneath gauze and tow and layers of bandages. When necessity called for a change I operated in the General Hospital theatre and carried out the precautions enumerated below. I still wonder how many of these precautions were superfluous, but leave that question to be solved by some of my successors. At first every case was inquired for by many of my colleagues. They lived, and after seventeen lived I at least was assured that "something was wrong somewhere." My wounds were not dusted with iodoform, and yet they healed by first intention.

I do not elaim to be a bacteriologist, but, as I said in discussing Prof. Kelly's paper on "Hand Disinfection," the bacteriologists are very confusing. One day one disinfectant is all-sufficient, and in a short time some one proves that this powder is full of germs itself. I do not spend much time in washing my hands, and do not intend to. I use frequently nothing but soap and water. It has been proven to be sufficient for Tait, and it is sufficient for me. But if my hands have been soiled by handling pathological material or by examining a puerperal woman, I use bichloride of mercury solution to cleanse them. Only a week ago I operated on a case two days after examining a woman in the last stage of puerperal fever. I felt uncomfortable as I pushed down my right.

index finger into the abdomen, but the patient made an uninterrupted recovery.

The fact that certain operators with extreme views have certain results is no proof that the results are in any way due to the extreme views. With the same experience and dexterity, and less extreme views, I am certain that they would attain as great success without half the amount of fuss and hospital expenditure. German operators are wedded to their own ideas, and many of the younger men from England and America accept them as religiously correct, while the old and successful operators laugh at them as superfluous.

It is so easy to attribute results to the wrong cause. Extreme views are like eccentricities—they mark out the man who holds them. This eminence is valuable; it attracts and hypnotizes students and practitioners, and brings grist to the mill. A few years ago the surgeon who did not use the spray was soon tabooed and his clientèle fell away from him. Within our own memory the spray has come and gone again; the lightning fluid from heaven descended on us for a time, as it did in days long past, and it has left a "dream" of inaccurate observations behind it; the cure for tubercle has sunk into oblivion, and we are ready to grasp the next innovation, no matter how illogical.

The following is a résumé of my cases and methods:

| Cystic ovaries and salpingitis, pnerperal | 3  |
|---|----|
| " " tubercular                            | 1  |
| Pyo-salpinx, gonorrheal                   | 6  |
| " puerperal                               | 1  |
| Appendicitis                              | 1  |
| Ruptured tubal pregnancy                  | 1  |
| Porro's operation                         | 1  |
| Ovarian cyst (twisted pedicle)            | 1  |
| Multilocular ovarian cyst                 | 1  |
| Encysted peritoneal abscess, puerperal    | 1  |
| Salpingo-oöphorectomy for myoma of uterus | 1  |
| Exploratory                               | 3  |
| _   | _  |
|   | 21 |
| Recovered                                 |    |

Died.....

Cause of death, septic peritonitis; source of sepsis unknown.

Place of Operation.—General theatre of a general hospital, owing to alterations in Woman's Pavilion.

Time of Operation.—Summer months. Washed out nine, drained sixteen; drained every case washed out. Fatal case not washed out, but drained.

Anesthetic.—Chloroform alone, nineteen; ether alone, not one; began chloroform, finished with ether, two.

Antiseptic used.—Iodoform powder in two (Porro's operation and appendicitis). Bichloride of mercury solution for the hands before operation.

Wound Dressing.—Ordinary fresh absorbent cotton in bichloride gauze in some cases, in plain gauze in others.

Skin Cleansing.—Soap and water, turpentine, and then alcohol.

Suture Material.—Silkworm gut.

Ligature Material.—Best Chinese silk.

Room Preparation.—Sulphur fumigation in some when the room had previously been occupied by a suspicious case. Cases without drainage tubes were taken at once into the woman's ward.

Theatre Preparation.—Thoroughly cleansed and aired; occasionally fumigated. One case reopened in small emergency room without any preparation; rapid recovery.

Stitch-hole Abscesses.—One or two in case of hysterectomy; no others. Stitches removed on first appearance of irritation.

Time of Operation.—Morning, when theatre had been aired all night.

People Admitted.—No one from post-mortem or dissecting room. No one but immediate assistants admitted to floor of theatre.

Sponges used.—My own in most cases.

*Instruments.*—My own in all but one or two cases, and in all the severe cases; brought directly from my own house.

Preparation of Instruments.—Boiled for a few minutes and wrapped in clean towels.

Drainage Tubes and Suckers used.—My own in all cases. Silk used.—My own.

You will thus see that I trust no one to prepare anything that is likely to go inside the abdomen. I keep the dirt out of the abdomen, and then feel easy when the peritoneum is closed. I felt very nervous of the results when I began this work forced upon me by circumstances, and determined to take extra precautions. I am satisfied that the danger does not lie in the room in which the operation is done or in the absence of this or that dressing from the wound, but in the use of sponges, instruments, drainage tubes and suckers, and silk not sufficiently clean before the peritoneum is closed. My fatal case was not washed out, although drained, and I regret this. I removed a pus tube, and some pus may have oozed out unobserved. The conditions of the operation were exactly similar to those of the others, except in this particular.

I mention these cases because they were done in a manner that we considered dangerous and experimental. The fad for special operating rooms for abdominal operations has been carried too far, as has the fad for special germ destroyers. A few years ago our surgeons were saturated with carbolic acid, and now they reek with iodoform. A fresh wound of the abdomen needs no antiseptic dressing. I have gone through all the stages, from the most rigid antiseptic precautions down to the method just related, and find that my wounds do just as well now as they ever did. I mention the cases seriatim to let you judge for yourselves, and also to prove to you that "pelvic cellulitis," as we have called it, though it may exist, does not exist as we were taught to believe. What we looked upon from the vagina and the post-mortem room as "pelvic cellulitis" is demonstrated by actual operation upon the living—the only time that the line of cleavage can be made out—to be in reality an intraperitoneal inflammation. This disease has puzzled me for years. I often felt "pelvic cellulitis" as recorded in the text books, that is, per vaginam, but have never been able to find it per abdominem.

Case I.—Left multilocular ovarian cyst and ascitic fluid. Vermiform appendix so adherent and bled so freely that it was removed; it was about five inches long. Adhesions of bowel and omentum. Subsequent collection of ascitic fluid in cul-de-sac of Douglas; punctured per vaginam. Other ovary left. Recovery.

Case III.—Salpingo-oöphorectomy for myoma. Recovery. Case III.—Gonorrheal pyo-salpinx. One side only removed, owing to weak condition of patient and to severe hemorrhage. Tube cheesy and thickened (see Fig. 1). Mass felt per vaginam (pelvic cellulitis) was bowel fastened to the end of the Fallopian tube, and bowels all matted together. Recovery. Subsequent operation this month (December, 1891). Removed the left ovary, destroyed by an abscess, and left pus tube, with easy recovery.

Case IV .- Exploratory for salpingo-oöphorectomy for ute-

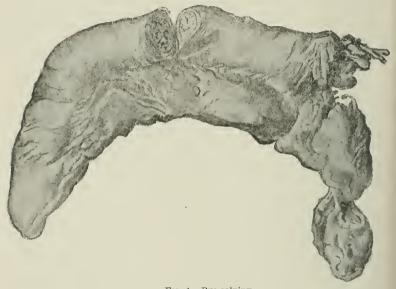


Fig. 1.—Pyo-salpinx.

rine myoma in a retroflexed uterus bound down by firm and impermeable adhesions. Recovery.

Case V.—Encysted abscess of the peritoneum following puerperal fever, probably connected with a pustube. Opened and drained in right iliac region. Recovery. Sinus still unhealed.

Case VI.—Ovarian cyst. Acute peritonitis. Diagnosis of a twisted pedicle. Tumor gangrenous at operation. Recovery.

Case VII.—Uterine myoma and pregnancy. Porro's operation, already reported (American Journal of Obstetrics, September, 1891). Recovery.

Case VIII.—Exploratory tapping. Enlargement of liver and spleen with ascites. Done without an anesthetic. Ovaries and tubes, uterns, both kidneys, and liver and spleen felt with very little pain to patient. She said it was like a toothache. Went home, sixty or seventy miles, three days after, by a mistake; no inconvenience. This patient was weak and enormously distended.

Case IX.—Cysts of both ovaries and salpingitis resulting from puerperal fever three years ago. Double salpingooöphorectoiny. This case was seen by several, who failed to
recognize the true condition. Recurrent attacks of pelvic
inflammation. Mass on each side of uterus. Recovery.
October 29th, 1891: Saw her to-day; in splendid health

and perfectly free from her old attacks.

Case X.—Ruptured tubal pregnancy. Patient moving about with blood in her abdomen, or else rupture gave rise to no symptoms and intraperitoneal blood must have become tready within a few hours. Operation. Recovery.

This is worth giving at greater length. Went for seven

weeks without menstruating, then became unwell. Then went nearly a month (tenth week), and was taken with severe pains, like labor pains, and uterine hemorrhage. Thought she had a miscarriage. Became collapsed, cold perspiration, but not ill enough to send for a doctor. This was about June 9th, and she came to consult me June 30th owing to continua-tion of the uterine hemorrhage. On examination a pelvic mass could be felt, but I advised an examination under chloroform, and she decided to come back in two days to undergo it. The history as given above was not elicited from her at that time. She was not suffering any great inconvenience. Under chloroform a hard, movable mass was found to the right of the uterus and filling the pouch of Douglas. I advised exploration. She came back in two days; walked back and forth each time; walked around the wards for two days, waiting for operation (Saturday and Sunday). On Monday morning I found her abdomen full of treacly blood. Removed the tube. Washed out. Fetus not found, but membranes made out at end of tube. Inner end of tube about normal in size. Recovery. In splendid health since.

Case XI.—Typical "pelvic cellulitis." Recent gonorrhea.

Pelvic peritonitis. Abnormally long omentum, rolled up and fixed in the cul-de-sac of Douglas. Intestines, Fallopian tubes, and ovaries fixed in a dense and impermeable mass. Patient was suffering with gonorrhea. When rising one morning she was seized with severe pain in the hypogastric region, and remained in bed for three days. Pain returned. Tender on pressure. At examination under chloroform a mass was felt to the right side of the pelvis, extending to within

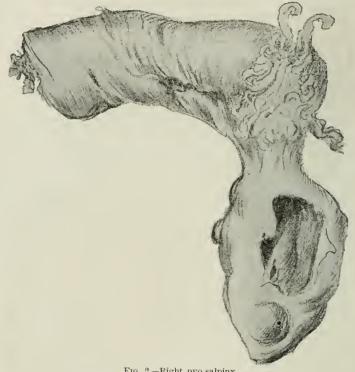


Fig. 2.—Right pyo salpinx.

one and one half inches of the crest of the ilium. An indefinite feeling, such as I never felt before, due, as was evinced at operation, to a tightening of the rolled and adherent omentum. Exploratory operation. Recovery.

December, 1891, patient is still suffering, and nothing but a desperate attempt to remove tubes and ovaries will cure her.

Case XII.—Gonorrheal pyo-salpinx. Greatly thickened tube mistaken for uterine myoma and treated with electricity. Electricity of no use and advised salpingo-oöphorectomy. At operation discovered that mass would peel out, and when cut across it proved to be an enormously thickened pus tube. (Reported in *Can. Pract.*, September 1st, 1891.) Several others examined this girl of 16 years and agreed with

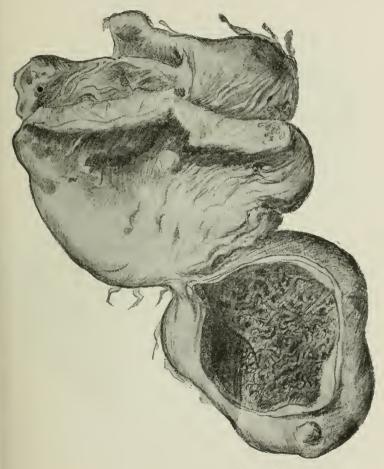


Fig. 3.-Left pyo-salpinx and ovarian cyst.

my diagnosis, but a positive diagnosis was not possible until after the removal of the tube and an incision across it. (Figs. 2 and 3.)

Case XIII.—Cysts of both ovaries and salpingitis, resulting from pelvic inflammation following childbirth (five years

ago). A hunchback. Secondary hemorrhage from a small torn artery that did not bleed when abdomen was closed. Bleeding began with reaction, and was discovered by the drainage tube. Injection of solution of perchloride of iron through tube. Hemorrhage continuing, abdomen was re-

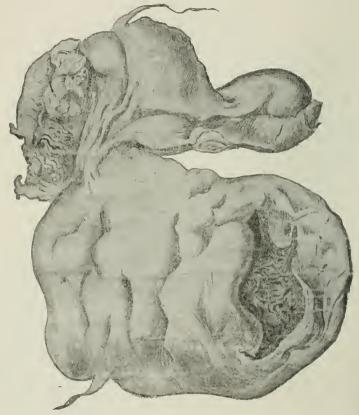


Fig. 4.-Right pyo salpinx and ovarian abscess.

opened. Pulse reached 172, respirations 36. Made a splendid recovery. (Figs. 4 and 5.)

Case XIV.—Gonorrheal pyo-salpinx. Gonorrheal infection when married. Pelvic peritonitis with pelvic matting per vaginam (pelvic cellulitis). Operation nine weeks after infection. Both tubes small, but filled with very nasty pus. Intestines, omentum, Fallopian tubes, and ovaries adhering in a conglomerate pelvic mass. Patient had gonorrhea for

four weeks before her first pelvic symptom. Aching came on in lower abdomen; could not touch it. Felt better and rose from bed. Took a chill and the pain returned. The peritonitis was evidently spreading at the time of the opera-



Fig. 5.-Left salpingitis and ovarian abscess.

tion, and became general immediately after. Both tubes and ovaries removed. Recovery. (Fig. 6.)

Case XV.—Gonorrheal pyo-salpinx. Operation three years after infection. One year ago trachelorrhaphy was performed

by some surgeon. Double salpingo-oöphorectomy. Recovery. In good health since. (Fig. 7.)

Case XVI.—Gonorrheal pyo-salpinx. One side of pelvis filled by a large mass—a pus tube. Other side apparently healthy and not removed. Recovery. Is now suffering from unremoved side. Tube ruptured during operation and flooded the abdomen with pus. (Fig. 8.)

Case XVII.—Appendicitis. Deep abscess covered by in-

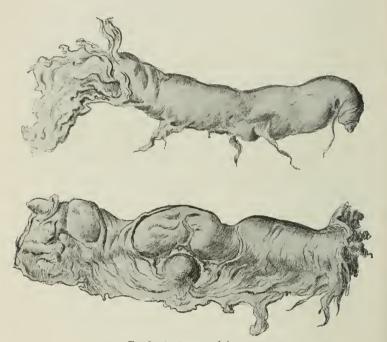


Fig. 6.—Acute pyo-salpinx.

testine. Appendix found at the bottom of abscess and unremoved. Fecal fistula for two weeks; closed. Recovery.

Case XVIII.—Puerperal pyo-salpinx. Operation three years after. Trouble quiescent until patient slipped and fell on her back. Was unable to rise for several minutes. Next day had pain over lower abdomen. Walked to the hospital, but was compelled to remain in bed after arrival. Temperature 101°; pulse 100. A nodule noticed on examination near the crest of the ilium on the right side proved to be an adherent vermiform appendix fastened to the right tube.

Death in sixty hours, probably from septic peritonitis. No post-mortem.

Case XIX.—Inflamed myoma in the left broad ligament, the inflammation following a miscarriage. Obstruction of the rectum. Typical "pelvic cellulitis." Exploration. Nonremoval of tumor, owing to its impaction in the pelvis and the density of the adhesions. Recovery. Still under observation. (Reported Trans. Amer. Ass'n Obstet. and Gynec... 1891.)

Case XX.—Cysts of both ovaries, salpingitis, tubercular.

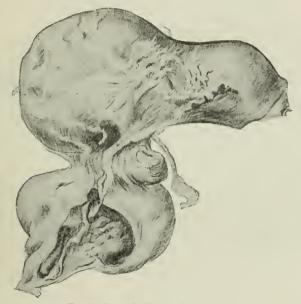


Fig. 7, - Gonorrheal pyo-salpinx.

Salpingo-oöphorectomy. Recovery. Family history tubercular. (Figs. 9 and 10.)

Case XXI.—Cyst of left broad ligament. Left hemato-salpinx with concretion in tube. Disease following miscarriage at the fourth month five years ago. Never well since. Sent for trachelorrhaphy. Double salpingo-oöphorectomy. Cysts of both ovaries and disease of both tubes. (Figs. 11 and 12.)

These cases have been epitomized from my case books and they are accurate. Hearing so much about the unnecessary removal of ovaries and tubes, I carefully preserved the speci

mens and engaged a young artist to make the accompanying drawings. The actual specimens have been examined by several of those who are extremely conservative, and the verdict has been that nothing but radical operation would have cured the patients. I am glad to say that in Canada many of our older men are open to conviction and do not make surgical obstructionists of themselves. In days gone by they have used all the so-called conservative methods of treatment on such cases without effecting cures. We all respect these men who have been our teachers. A son cannot accept as

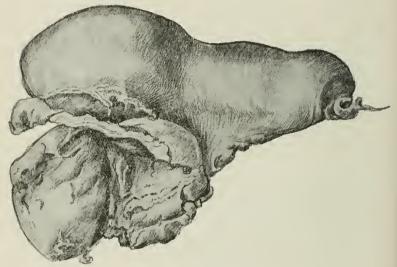


Fig. 8.—Gonorrheal pyo-salpinx

gospel all that his father tells him, and we cannot accept as gospel all that our teachers tell us. The time comes when the pupil becomes in his turn a teacher. I often wondered how the pelvic cellular tissue became so rapidly inflamed and edematous. Cases of gonorrheal and puerperal pelvic inflammation present, very soon after the attack, this peculiar edematous condition, as if the pelvis was filled with plaster of Paris. The foregoing cases demonstrate, to my mind at least, the nature of this swelling. The inflammation is in reality intraperitoncal, and not extraperitoneal or cellulitic. Extraperitoneal abscess may occur, but such cases must be exceptional. Abscess in the broad ligament may be due to rupture of a

pus tube into the layers of the broad ligament. I have had one such case.

Inflammation in the cellular tissue may occasionally arise from laceration of the cervix, but abdominal surgeons frequently find pus tubes in cases sent for the repair of a lace-



Fig. 9.-Tubercular pyo-salpinx.

rated cervix or in cases in which the laceration has been already repaired without curing the patient.

Many of these cases are deluged with hot water, are treated for endometritis, have the operations of trachelorrhaphy and

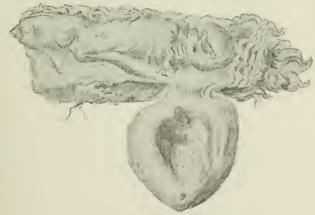


Fig. 10.-Tubercular pyo-salpinx.

perineorrhaphy performed, and the true condition of the pelvis is overlooked owing to the prevalent notions of pelvic cellulitis. Nothing is more difficult to make than an accurate diagnosis of intrapelvic disease. The history of the case will often give the abdominal surgeon of experience more infor-

mation than a vaginal examination. On two occasions I have not found disease in the pelvis after exploration, and have closed the wound without making an operation by removing healthy ovaries and tubes. But to offset this I have over and over again been amazed at the intrapelvic condition disclosed by abdominal operation after most careful examination per vaginam under an anesthetic. After years of invalidism these patients are cured, and they wonder why every operation but the right one has been performed and why the right one has been deferred so long.

I had present at an operation recently an eminent medical

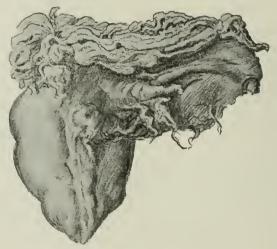


Fig. 11.—Pyo-salpinx with tubo-ovarian cyst.

author, a man of large gynecological experience. The operation was for the removal of a pus tube that had opened into both bladder and bowel. The patient had consulted some fourteen professional gentlemen, but, as operation had not been urged, she procrastinated until she was beyond surgical aid. Adhesions were so firm that no headway could be made without excessive risk, and her husband was not willing that she should undergo this excessive risk. The gentleman suggested that the case was one of "parametritis." It was indeed a case of the "parametritis" of the past-a pus tube of the present and future.

Those who cry out against these operations stand on a theo-

retical pinnacle and they will not take the trouble to come down among practical, every-day operators to learn. My views on those horrible operations—removal of healthy ovaries the seat of imaginary disease—are well known and need not be repeated here. I have to-day seen a lady with a quiescent pus tube who recently consulted an eminent gynecologist in his office. He told her that she needed no operation, and I am sure that he failed to find the pus tube. I have endeavored to map it out more than once without an anesthetic,

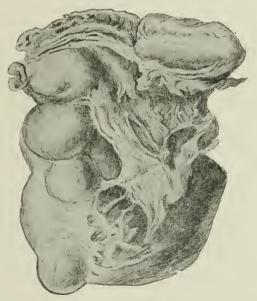


Fig. 12.-Pyo-salpinx with tubo-ovarian cyst.

and have each time failed owing to her excessive sensitiveness to pain and the consequent rigidity of the abdominal muscles. She had puerperal fever four years ago and has never been well since. She may carry the pus tube for four more years and may go about as usual, but, like my friend Dr. Price, I expect to be called at any time to find her suffering from a general peritonitis.

Many cases recorded as cases of dissipated pus tubes have been cases of mistaken diagnosis.

If a patient continues to suffer from recurrent attacks of

pelvic inflammation after an attack of gonorrhea or puerperal inflammation, and a "pelvic matting" can be made out by means of an anesthetic, nothing but an abdominal operation will care her. Those who cure so many of these cases by other means simply lose sight of them and they fall unknown into other hands. The periods between attacks may often be of many months' duration. The old ideas about idiopathic peritonitis in the pelvis have been exploded, and when pelvic peritonitis recurs in a woman it always has an intraperitoneal cause, and to cure the patient the cause must be removed.

I give below the result of vaginal examination under an anesthetic before operation, written down in my case book by my hospital clerks at the time, and the result of examination inside the abdomen at the time of operation, written down by myself immediately after the completion of the operation.

### CASES OF TYPICAL "PELVIC CELLULITIS."

CASE III. Examination under Chloroform.—Uterus normal. Right ovary normal size, left ovary normal size. largement to right side of right ovary. No actual sense of fluctuation. Gonorrhea.

Found at Operation.—Right pyo-salpinx. Cheesy, thickened tube about three times normal size. Mass previously felt at right side was adherent bowel. (Fig. 1.)

Case XI. Examination under Chloroform.—A mass to right side of pelvis extending up to within one and one-half inches of crest of ilinm. An indefinite feeling. Gonorrhea a few months before.

Found at Operation.—Found mass to be an abnormally long omentum rolled up in a coil like a rolled pancake. Firm adhesions. Could not make out ovaries and tubes owing to the extensive adhesions.

Case XIV. Examination under Chloroform.—A mass found on the left side of the uterus. Boggy feeling. Gonorrhea nine weeks before.

Found at Operation.—Found adherent intestines, omentum, ovaries, and tubes. Ovaries normal in size. normal in size, but filled with pns. (Fig. 6.)

CASE XV. Examination under Chloroform.—Had her cervix stitched. Found boggy mass on each side of uterus. Question whether double pus tubes or ruptured ectopic gestation, owing to boggy feeling. Gonorrhea three years before. (Fig. 7.)

Found at Operation.—Bowels matted together and adherent to double pus tubes. One ovary filled with blood cyst.

Case XIX. Examination under Chloroform.—Narrowing of rectum by pressure from without. Mass in pelvis on both sides, more extensive on the left. Uterus adherent. Ovaries not found. A typical ease of pelvic cellulitis.

Found at Operation.—Intestines and omentum adherent to a softened and inflamed uterine myoma. Inflammation following misearriage.

## A CASE OF ECTOPIC GESTATION OF ELEVEN AND A HALF MONTHS' DURATION.

 $\mathbf{B}\mathbf{Y}$ 

THEODORE J. GRAMM, M.D.. Philadelphia, Pa.

(With two woodcuts.)

The following case of eetopic gestation occurred in the practice of Dr. A. M. Barnes, through whose kindness I saw the case and had the pleasure of operating.

The patient is a rather large and well-developed woman, aged 35 years, a German by birth, and for twelve years a resident of this country. She began to menstruate at the age of 17 years, and was married to her first husband when 21 years old. By him she had two male children, aged 12 and 14 years respectively. To her present husband she has been married eight years without having children. She has no positive knowledge of ever having had a miscarriage, but about three or four years ago she had her menstrual period delay for two weeks, and then appear with pain in the abdomen and flooding, and thereafter the flow was of longer duration than formerly.

With this exception her menstrual periods have always

been regular, appearing every four weeks, lasting for three days profusely and one week in all, and attended by some pain in the back. She has never had much leucorrhea, and does not know of having had any pelvic inflammation. Her last menstrual period occurred on October 20th, 1890, at which time the flow was, if anything, somewhat scanty. November the period was absent. On December 9th, seven weeks after the last menstrual period, she was suddenly taken, while urinating in the water closet, with faintness and considerable pain in the abdomen, great soreness in the hypogastric region, the abdomen having a tight feeling and being hard to touch. From then on she had pain in the rectum when sitting. About two weeks later, on December 24th, she had another spell just like the above and again attended by faintness. After this she was much troubled with constipation. Her abdomen now began to enlarge rapidly, and she considered herself pregnant and counted her time for delivery to be July, 1891.

On August 16th, 1891, or ten months after her last menstrual period, she was taken with severe pains which she said greatly resembled early labor pains, except that they were not in the back, as in former pregnancies, but were in the lower part of the abdomen, with great soreness in the flanks. All along she felt fetal movements, but at this time they ceased, and on September 1st she began to have a brownish watery discharge from the vagina, which continued more or less constantly until the time of her operation.

The patient until this time had been under the care of a physician who thought she had miscounted her time. The patient, however, persisting that she was long past her time and that "she was not right," sent for Dr. Barnes, who saw her on September 4th and at once diagnosed extra-uterine pregnancy from the history of the case. He arranged for me to see her on September 5th.

The physical condition found at that time was as follows: Abdomen enlarged, at once suggesting pregnancy among other conditions. When in a semi-prone position there is some irregularity in the hypogastric region, suggesting a diastasis of the recti muscles, with slight protrusion or an irregularity caused by some fetal part, for the curved line passing

downward from the umbilicus suffered a slight break and was continued as the segment of a smaller circle. Integument above symphysis somewhat overlaps the pubic bones. In prone position the irregularity of the abdominal walls is much less apparent.

The abdominal walls are quite firm and resistant on pressure over the greater part of the tumor, and convey the impression of being very thin; but the flanks are puffy and soft, especially the right, which also is more tender to pressure.

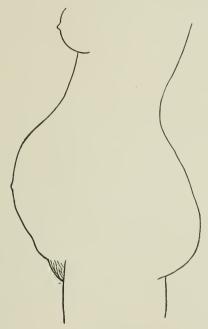


Fig. 1.

No fetal movements can be felt or induced, and fetal heart sounds are not audible. The mammæ are slightly tumid, and on pressure a few drops of what appears to be colostrum can be made to exude from the nipples.

Measurements.—Pubes to umbilicus, twenty-five centimetres; umbilicus to ensiform cartilage, twenty-two centimetres; between spines of ilia, fifty-three centimetres; total circumference, one hundred and nine centimetres.

Per vaginam.—Cervix lies quite high up and displaced far to the left side, being reached with difficulty; is bilaterally

lacerated, very soft, the anterior lip being especially soft and thin. The os is dilated, readily admitting index finger for two or three centimetres until it reaches a constriction in the cervical canal. On bringing cervix down with a corrugated tenaculum, it is felt to be elongated, soft, flattened, and the finger passes alike up the anterior and posterior surfaces of the vaginal portion. The sound enters seven and a half centimetres.

Per rectum.—The true pelvis is comparatively free. The fundus uteri cannot be distinctly recognized, even after bringing down the cervix, but appears to be embedded in a mass of soft tissue which obscures its borders. High up there is a greatly increased amount of very soft tissue lying between the rectum and the uterus.

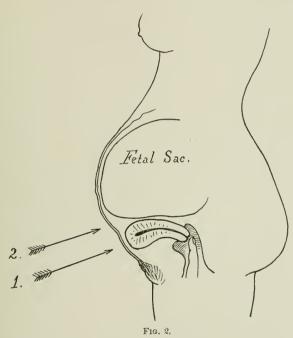
On September 7th Dr. Wm. B. Van Lennep saw the case with us. The condition was much the same as on two days previous, except that the cervix was now most remarkably soft, and per rectum the line of tissue which appeared to mark the embedded upper border of the uterus was nowhere recognizable, and nothing like it could be found anywhere; in addition, even the lateral borders of the cervix could be distinguished with difficulty, everything being soft to touch and conveying only very obscure impressions of anatomical landmarks. In examining the abdomen Dr. Van Lennep felt a uterine contraction.

As a result of our conference upon that day it was determined, firstly, in view of the fact that the patient was in fairly good health, was going out every day, and her doubly "interesting" condition did not seem to inconvenience her in any way, that there was no immediate necessity for operating, but that a judicious delay would further favor arrest of placental development and permit more radical procedures at the time of operating. Secondly, the patient was to be carefully watched for the very first indications of sepsis, and should such supervene the operation was to be undertaken at once. Thirdly, the relations of the uterus and fetal sac were, if possible, to be more accurately determined.

With these considerations in view Dr. Barnes saw the patient frequently, taking her temperature often and making careful observations of her general condition. She received

two visits from me, during one of which I examined her again in a systematic manner, and then felt sure that I had not only determined the exact relations of the uterus, but could demonstrate them. Briefly told, the result of this examination was as follows.

Reference has been made above to an irregularity in certain lines about the hypogastrium, which irregularity in the semi-prone posture became a prominence. On grasping this it was found to have a certain amount of lateral motion in-



dependent of the mass above, this motion being 'felt with one finger on the cervix, but only when the cervix was drawn down with the tenaculum and a certain amount of tension given to the tissues above. Also, when slight pressure was made in the direction of 1 (Fig. 2), which is one inch below the depression on the abdomen referred to, the impulse is distinctly felt by one finger under the cervix, while from pressure or motion made at 2 (Fig. 2) no sensation is conveyed to the intravaginal finger. In addition to this, when kneading is applied laterally above the symphysis

pubis, the prominence referred to could be made to contract repeatedly; and at such times, if the patient happened to be half-lying, this portion would become quite well defined, whereas if she happened to be prone the effect of the contraction was mostly lost to the eye. While we were deliberating after examining the patient on the 7th of September, Dr. Van Lennep said he felt a uterine contraction. Although previously sought for, I could not observe one, and on trying various means at this time could not induce one, except at the point indicated.

On September 26th we arranged to see the patient together again, at which time it was determined to review the case again, and in addition to demonstrate that the uterus lay, greatly enlarged, in front of the fetal sac and that its cavity was empty. For this purpose I took a new sterile No. 7 English catheter containing a stylet, and, bending it throughout the greater part of its length into a half-circle of about thirteen centimetres diameter, proceeded slowly and with great care to introduce it into the uterus, holding the uterus with a corrugated tenaculum, until a considerable part of the catheter had disappeared, the direction of its point being known. Now, by letting the index finger fall on the ring of the stylet in the catheter, the impulse was distinctly communicated to a hand placed on the abdomen, the point of the catheter lying within the uterus at a point about one inch below the transverse line on the abdomen. On withdrawing the catheter it was found to have entered the cavity of the uterus for a distance of fourteen centimetres. Previous to introducing the catheter the vagina and cervix were carefully cleansed with absorbent cotton, in order that the evidence of any injury to the uterus or other parts which might result from the procedure about to be undertaken might the more readily appear. Now, on withdrawing the catheter, the parts were again carefully examined, and it was found that no watery or bloody discharge had followed.

On the night of September 30th the patient had a severe chill, which, it seemed, was directly attributable to exposure, the temperature of the weather falling greatly at that time. This was followed by headache and increased pulse and bodily temperature. In addition there was some diffused sore-

ness over the lower part of the abdomen on the right side, and some gray or brownish vaginal discharge took place. Treatment with rest in bed being instituted, she improved at once, but the pulse remained rather rapid.

On October 6th the operation for the relief of this interesting ease was undertaken, Dr. Van Lennep having very

kindly consented to give me his valuable assistance.

An incision was rapidly made in the median line, being enlarged upward and downward, at once reaching and passing through the partly adherent fetal sac and giving exit to a very offensive dark-brown fluid, in quantity about two litres. A large, fully developed dead fetus presented, lying transversely, vertex left, which was delivered by the breech, the operation thus far having lasted three minutes. The cord was then clamped and severed.

In enlarging the abdominal incision upward the peritoneal cavity was opened just where the fetal sae dipped downward and away from the abdominal parietes; and in enlarging downward the thickened, remarkably soft and friable uterus was also slightly wounded with the seissors. Both of these places were carefully cleaned and rapidly but securely whipped around with silk and thus closed against infection from the sac contents.

The inner surface of the fetal sac was of a dark-brown color, being covered by loose membranous shreds and pieces of integnment from the partly macerated fetus. These were removed as far as possible, about fifteen centimetres of umbilical cord tied off from deep within the cavity on the right side and removed, and the sac irrigated with a five-per-cent solution of creolin.

Three silk sutures were inserted to unite the upper angle of the wound, the sac cavity again irrigated with creolin solution, cleansed, and packed with hydronaphthol gauze, a binder applied, and the patient returned to bed in a very good condition.

The patient's temperature during the first week pursued a satisfactory course, varying somewhere between 100° and 101° F., on the evening of the day following operation, however, reaching 102°. The pulse, abnormally high before the operation, remained so for three days and then came down.

Food was given early and was well borne, and the general physical condition improved rapidly. A slight vaginal discharge of brown blood persisted after operation, and on the 13th of October, one week after operation, the patient began to pass per vaginam shreds of decidual tissue.

For the first ten days the treatment of the wound consisted in once or twice daily thoroughly packing the sac with hydronaphthol gauze. On the tenth day, and daily thereafter, the sac was freely irrigated with a solution of hydrogen peroxide, while with one finger the sac was explored and soft, velvety placental masses and shreds felt and removed, after which the gauze packing was again applied.

Fourteenth day: Made a vaginal examination. Cervix is lying high up in pelvis and to the left, is quite hard and firm, feeling like a normal cervix. Posterior cul-de-sac is almost obliterated on account of the fundus being anteverted and held high up, and on account of pressure from behind made by the placental masses.

Twenty-second day: Patient is pale and weak; has a weak pulse (90); last night had temperature of 102°.

Twenty-fourth day: Discharge from the sac is decreasing rapidly.

Thirtieth day: Much shrinking of the incision wound, and a mass of the posterior sac wall has been gradually pressed forward, until to-day it protrudes like a small turtle's back from the incision, and is cracked around margin where it touches the abdominal wall. Abdominal wound to-day measures seven and one-half centimetres.

Thirty-first day: Cut off most of the extruded tissue until a soft tissue resembling semi-organized blood clot was reached.

Thirty-second day: Irrigated with a one-per-cent solution of iodine. Discharge to-day more red and serous.

Thirty-fourth day: Cut off much more of the extruded tissue and continued the iodine irrigation. To sit up in bed.

Thirty-sixth day: On removing dressings found that a bloody fluid in addition to the usual red, thick discharge was present, and from the wound a red mass of partly organized blood clot protruded and was more loosened at the edges than formerly. On making gentle traction there came away a large mass of brown-red tissue, made up of coagulated fibrin and placental tissue, in bulk about twenty centimetres long and eight centimetres thick. After removal the cavity was irrigated with hydrogen peroxide solution and carefully packed with gauze.

In exploring the cavity into which the abdominal wound entered, it was found to be completely shut off from the general peritoneal cavity, its walls being formed of a firm, pink, slightly vascular tissue which did not occasion any frothing of the irrigating fluid. The stitches inserted below in the uterine tissue could not be felt, the lower end of the incision having united perfectly.

From this time on the improvement was rapid and uninterrupted. The discharge from the wound was now scanty and colorless, the line of incision shrinking greatly and the granulating portion healing with surprising rapidity. On the fifty-third day the abdominal wound measured as follows: Linear cicatrix in median line, seven centimetres over all, of which three centimetres is yet granulating, and in lower part of this surface is a fistulous opening six millimetres in diameter.

The fetus is a fully developed female, fifty-one centimetres long, and weighing seven and one-half pounds. The umbilical cord measures in all forty centimetres.

1409 HANOVER STREET.

REPORT OF A CASE OF PARTIAL SEPARATION OF THE PLACENTA, CAUSING ACCIDENTAL HEMORRHAGE DURING PREGNANCY AND PREMATURE DELIVERY.<sup>1</sup>

ΒY

HENDERSON SUTER, M.D., Washington, D. C.

I AM aware that this subject was brought before this Society last year by Dr. H. L. E. Johnson, but the case reported to-night has so many interesting features that it seems worth bringing forward for your consideration.

<sup>1</sup> Read before the Washington Obstetrical and Gynecological Society, March 6th, 1891.

Mrs. B., age 39, mother of four children, sent for me May 4th, 1890, complaining of a severe flooding, and stated that she feared she would miscarry, as she was then five months pregnant. She had been doing some housework. and upon making an effort in hanging some pictures she slipped and fell, and was immediately seized with an acute pain over the uterus, which was almost at once followed by the flooding for which I was hastily summoned. On making a vaginal examination I found the os slightly dilated and that quite a severe hemorrhage was taking place. Perfect rest in the recumbent position was advised, and a mixture of fluid extract of ergot and tinetura opii deodor, was prescribed. By these means the hemorrhage was soon stopped and she was able to be up and about again in a day or so. She had several recurrences of the hemorrhage, but it always yielded to the above treatment, and by exercising extreme caution she was enabled to go until July 8th, when the hemorrhage began again and she also commenced to have labor pains. On visiting her I found the os dilated as large as a quarter of a dollar, and I examined carefully to find out whether this was a case of placenta previa, which I supposed it was, but could feel nothing resembling a placenta at the cervical opening. The hemorrhage was not very severe. By vaginal examination I was unable to feel any presenting part, but by external examination it was ascertained that the head was in the right iliac region and the feet in the opposite one. I left with the intention of getting assistance and performing version after the os was sufficiently dilated. At the expiration of three hours I found that the os had dilated well, and that the presentation had changed to a vertex owing to the small size of the child and its free mobility in the uterine cavity, as the membranes were unruptured. These were now ruptured, and the head at once became engaged at the os, and in a short time a fetus of seven months was delivered. The placenta was shortly delivered by Credé's method, and it was carefully examined. About one-sixth at least of its surface was quite smooth, and this portion had evidently been detached since the date of the fall and the first hemorrhage.

The interesting points in this case are the small portion of

the placenta which was detached and the early stage of pregnancy at which this accident occurred. It was undoubtedly due to the first fact that the pregnancy was allowed to go on as long as it did and that the hemorrhage was not more severe.

In looking over the literature of this subject I find that the most extensive article is that by Dr. Goodell. He states that it occurs most frequently in the latter months of pregnancy, which was not the case in my patient, neither were there any symptoms of collapse or very great pain, or any indication from the shape of the uterus that this accident had taken place. In the classification of Dr. Goodell my case would come under Class b, viz., "When the placenta is so detached that the blood escapes into the uterine cavity behind the membranes near the fundus." The membranes were unruptured, and the discharge was blood and not mixed with liquor amnii.

The causes of this accident are irregular uterine contractions, external violence, and undue exertion. The latter was evidently the cause in the case reported.

The diagnosis is not difficult when, as in the case reported, we have the external flow of blood following a history of undue exertion and pain over the uterus, and after placenta previa has been excluded.

In the concealed form it is much more difficult, and then we have to depend on the history of undue exertion, pain, extreme collapse with feebleness of pulse, and an altered shape of the uterus.

The *prognosis* in the first form is more favorable than in the second, as in the former we are able to know sooner what the trouble is and consequently to apply our remedies. In the concealed form Dr. Goodell states that "out of one hundred and six tabulated cases fifty-four mothers perished, and out of one hundred and seven children six alone are known to have been saved." The child of my patient died a few minutes after its birth.

The treatment differs according as to whether the hemorrhage is severe or not. In the earlier months sometimes rest in the recumbent posture and the use of ergot will be suffi-

<sup>&</sup>lt;sup>1</sup> American Journal of Obstetrics, August, 1889, p. 28.

cient. Later on it becomes more difficult. In the concealed form, when the diagnosis is made, the indications are to empty the uterus as soon as possible and terminate labor before both mother and child have lost a fatal amount of blood. If the os is not sufficiently dilated we should use Barnes' dilators, and when it is sufficiently dilated we should perform version and deliver the patient at once. If the patient is in a state of collapse it will be better to try and bring on reaction by stimulants, external heat, etc., before performing version, lest she may not be able to stand the shock of the operation.

### VICARIOUS MENSTRUATION DURING PREGNANCY.1

BY

THOMAS MARSHALL NORTON, M.D., Washington, D. C.

I REPORT the following case, not solely on account of itsrarity, but also for consideration of several points of interest which it presents.

Case.—On the 4th of April, 1887, I was called to see Mary E., to open an abscess in her right groin. I found a large, fluctuating tumor on her right groin which evidently contained pus, but aside from this condition she was suffering severe abdominal distress and exhibited violent symptoms of hysteria. While preparing a scalpel for incising the abscess she had a coughing spell and expectorated about a table-spoonful of blood; following this was a period of comparative ease. Her mother gave me this history of the case: The patient was 19 years of age and of an extremely nervous temperament. She had first menstruated at the age of 14, and had always experienced much difficulty and pain during these periods. At their commencement there was great suffering in the bottom of abdomen, the distress simulating crampy or labor pains, accompanied for the first two or three

<sup>&</sup>lt;sup>1</sup>Read before the Washington Obstetrical and Gynecological Society June 19th, 1891.

days by a slight leucorrheal discharge from the vagina; and at intervals of several hours she would have a choking or smothering sensation in her throat, followed by a paroxysm of coughing, and concluding with the bloody expectoration above mentioned, after which temporary relief supervened. Towards the end of the third or about the commencement of the fourth day the vaginal discharge would assume a pinkish color and longer periods would elapse between the bloody expectoration, the blood expectorated growing less in quantity and the pain and hysteria less and less severe. All of these conditions would cease about the fifth or sixth day. Her conditions would cease about the fifth or sixth day. Her former home was in Lynchburg, Va., at which place she had been unsuccessfully treated by a number of physicians; and, after two years of monthly suffering, one of them advised marriage as the only relief for her condition. Consequently, taking affairs into her own hands, she ran off with a boy of 19 who was at boarding school in the city. They came to Washington, the home of his parents, to which place her mother followed them, and they had resided here for the past three years. Up to this time she had not conceived, so marriage had failed to develop the doctor's favorable prognosis, each month still bringing its accustomed anxiety and torture. The abscess for which I was primarily summoned, being incised and evacuated, healed without further inconbeing incised and evacuated, healed without further inconvenience, and subsequently I was called upon to treat her menstrual abnormality. Bimanual examination disclosed a uterus of small size, high up in the pelvis, and with a very minute external os. She declined to allow me to introduce either a speculum or sound, nor would she consent to undergo-local treatment of any kind; and this same reason probably explains why other physicians had failed to relieve her. In the next two years I saw the patient during a number of her men-strual periods, and experimented with numerous remedies for alleviating her symptoms. A mixture of the fluid extracts of ergot and viburnum—3 ss. of the former and 3 i. of the latter every four hours—afforded more relief than anything else that was tried, appearing to facilitate the bloody expectoration and to moderate the pain and hysteria. So habitually at the commencement of each menstrual period this prescription was filled and used. She always declared each menstruation

to be different from previous ones, expressing the belief that she was pregnant; but I was unable to detect any variation in them.

I saw her in the months of May and June, 1889, at which time she passed from under observation and I heard nothing of her until the following October, when I was again called to attend her. To my surprise she was about six months pregnant; in spite of which fact she was menstruating just as formerly, and she informed me that she had menstruated every month since I had last seen her; she had taken the viburnum and ergot at each period, with the same results, nor was she fully convinced of her condition until pregnancy was almost four months advanced. There was no appreciable difference between the present menstruation and those I had seen previous to and at the commencement of pregnancy. It presented the same degree of hysteria, with the corresponding abdominal distress, bloody expectoration, and vaginal discharge; these conditions running a similar course, receding, ameliorating, and ceasing in the same manner and at the same time as theretofore. I afterwards saw her in three more menstrual periods before confinement, the final occurring about ten or twelve days before delivery, repeated examinations exposing no signs of premature labor. confinement itself was perfectly normal for a primipara, presenting no points of unusual interest. From the time of her recovery I saw or heard no more of her until about two months ago, when I visited her to procure her more recent history. She had menstruated about ten months after the birth of her child, and also each month since that time; and while her periods were not entirely painless, still the blood passed from the natural passages and her sufferings were extremely slight in comparison with her former tortures.

## PLACENTA PREVIA; CESAREAN SECTION; ABSOLUTE INDICATION.

BY
J. M. SLIGH, M.D.,
Granite, Montana.

On November 2d, 1891, I was called to see Mrs. H. N., American, 32 years of age, Vpara, well developed and nourished. She was having short labor pains at intervals of ten to twelve minutes, and informed me that she thought herself at full term, or near it, but had no positive means of knowing, as she had flowed some each month excepting during August. As results of her four previous pregnancies, the first three children were still-born and the fourth lived only eight months. Digital examination revealed a hard cervix, apparently not at all shortened, without any dilatation of the os. No presenting part of fetus could be made out through the uterine walls, but pressure against the uterus gave a soft, doughy feel. I informed her that she was not more than six or seven months pregnant, and that rest in bed, together with what I would prescribe, would probably cause pains to cease. I gave one-quarter grain morphine hypodermically, and left.

On November 3d pains were about the same as on previous day, with physical conditions unchanged. Said she had rested fairly well during the night. On November 4th and 5th no changes were apparent. On the 6th I was sent for in haste, and on arriving at the house found she had had a considerable hemorrhage, the flowing commencing with a rush, as she expressed it, but ceasing before my arrival. Digital examination found the same conditions as heretofore, and, although the os would not admit a finger, placenta previa was diagnosed from the history and existing conditions. Though the abdominal walls were quite thick, I was able to find the fetus in transverse position, head to the right. From this time until the morning of November 8th I watched patient closely, a small amount of blood coming at intervals, when

she was chloroformed, with the intention of dilating the os and making immediate delivery. Even under the anesthetic I could not introduce a finger through the cervix, the resistance being greatest at the internal os. By the aid of steel dilators I opened the os enough to introduce a rubber dilator which was attached to Allen's surgical pump, and made effort to dilate by hydrostatic pressure. But resistance was so great that the os was opened only enough to allow the introduction of two fingers. I found a central implantation of the placenta, which was detached around the os, an edge reached on right side, liberated and turned back and to the left, and efforts made to reach a leg of fetus, but in this I also failed. Efforts were then made to change the position of fetus by conjoined manipulation, and failed. I then ruptured membranes and tamponed vagina.

At 3 o'clock A.M., November 9th, pains were severe and two to three minutes apart. Removed tampon and found condition unchanged from day previous, except that the os would not now admit two fingers. The patient was weak and nervous, pulse 118, and temperature 102° F. I advised Cesarean section, which was accepted by patient and husband, although I offered but the slightest hopes for recovery because of the patient's condition, her surroundings (being in a boarding house), and a suspicion, approaching a diagnosis, that the exceedingly resistant condition of the neck was due to carcinoma.

Assisted by Doctors Power, Allen, and Heine, I commenced operation at 10:50 a.m., November 9th, making an abdominal incision in median line eight inches in length and through uterus of about five inches; seized feet and extracted a fetus of about seven months, evidently dead two or three days; easily removed placenta, which was attached to back and left lower segment of uterus, when the organ contracted firmly; put in uterus seven deep and seven superficial sutures, five in peritoneum, and nine deep and nine superficial in abdominal walls, tying the last suture at 11.25 a.m., thus completing the operation in thirty-five minutes. When she was placed in bed, ten minutes later, her pulse was 170 and weak, and temperature 101° F., but she quickly rallied under stimulants and warmth.

At 6 o'clock P.M. pulse was \$4 and strong, and temperature 99°. She asked for and received some nourishment, and expressed herself as feeling well, excepting after-pains, which were severe and about ten minutes apart. Gave one-quarter grain morphine hypodermically, and left, thinking she might recover, but she died at 11:15 P.M.

All sutures used were of silk; disinfection of persons of patient, operator, and assistants was closely looked to; and in the technique of the operation the suggestions offered by Dr. Howard A. Kelly in the May, 1891, number of this JOURNAL were closely followed.

Had I made efforts at delivery per vias naturales immediately upon diagnosing placenta previa, and, failing then, at once made the section, it is probable the patient's chances for life would have been better.

#### LYSOL, A NEW ANTISEPTIC.

BY

ERIC VONDERGOLTZ, M.D., New York.

Since October, 1890, I have used lysol as a disinfectant in all cases of emergency or operation, and the excellent results obtained are worthy, I believe, of publication.

Lysol is obtained by dissolving in fat and saponifying with the aid of alcohol the fraction of tar oil which boils between 190° and 200° C. It is a brown, oily-looking, clear liquid, with a feebly creosote-like odor. It contains fifty per cent of cresols. It forms clear mixtures at once, in every proportion and at all temperatures, with water. It possesses the properties of a saponaceous solution in addition to its germicidal power. While as valuable as bichloride of mercury, it is without any toxic property—a point to be considered when it is used in cavities, and especially in gynecology and obstetrics. In the latter, and especially in emergency cases, lysol is of the highest value.

<sup>&</sup>lt;sup>1</sup> Pharmaceutical Record, November 12th, 1891.

The greatest safety for the patient can only be obtained by cleanliness; the want of this in most houses and families can only be rectified by the employment of a thoroughly reliable antiseptic drug. I can say of my experience with lysol in more than two hundred cases that it has given me perfect satisfaction.

In the preparation of material for ligature and suture, I boil the silk (which is the only material used by me), wound on glass spools, for three hours in a five-per-cent solution of lysol, so as to be ready shortly before the fixed hour of the operation. For emergency cases I boil the silk in the same way, then put it in two-per-cent lysol-alcohol till needed. These methods are quick, simple, safe, reliable, and therefore, as I am convinced, the best ones.

The instruments—after being assured that the nickel plating is perfect—are washed with a brush in hot pearline water, then washed with a brush in a five-per-cent solution of lysol (hot), and after that put in a hot one-half-per-cent solution ready for use.

The hands and forearms of the operator and of his assistants must first be rubbed with pure lysol and then washed with a brush in a one-per-cent hot solution. Just before operating, the hands are to be dipped again in a basin containing a one-third-per-cent lysol solution. In this solution the hands and instruments are always dipped if soiled in any way during the operation. This last low percentage prevents the slipperiness against which so many argue.

The field of operation is to be prepared by washing it with a five-per-cent lysol solution.

In concluding this description of the use and manipulation of lysol for operations, I will add that I employ only five-per-cent lysol gauze, which I also use in small pieces instead of sponges. The gauze is prepared by boiling for three hours in a five-per-cent solution of lysol and then drying in an oven.

For emergency cases, as in obstetrics, I have used, with the most satisfactory results, pure cotton dipped for about twenty minutes in a hot two-per-cent solution of lysol, out of which I wring it as needed.

I was first convinced of the highly antiseptic property of

this drug by its striking deodorizing power, which I first noticed in my office practice. The horrid smell of a putrid vaginal discharge, caused by an inoperable carcinoma cervicis, ceased after an irrigation of thirty minutes with a one-half-per-cent solution. This settled the question of the traits of lysol. I used the drug more and more, till in time the above systematic manipulation was instituted.

Finally, I have to remark that at no time could an irritation of the tissues be proved. The patient, if sensitive, may feel a slight burning sensation for about ten minutes after

the use of a one-half to two-per-cent solution.

193 SECOND AVENUE.

# TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF CINCINNATI.

Regular Meeting, June 11th, 1891.

The President, Dr. E. W. MITCHELL, in the Chair.

Dr. J. M. Withrow read the paper of the evening, entitled congenital amengrhea and vicarious menstruation.

Dr. C. D. Palmer thought the paper presented creditable to the essayist and the views entertained the correct ones. The term or expression congenital amenorrhea, however, must be a misnomer. No one will say that menstruation is a normal function at birth. If, then, absence of menstruation is a perfeetly normal condition at and for many years after birth, how can there be such a morbid condition as congenital amenorrhea? He was a firm believer in vicarious menstruation-a morbid condition not frequently found, but nevertheless at times present. To accept the idea of vicarious menstruation we have but to consider that menstruation is not alone a local matter, influencing the uterus and its appendages, but that it is distinctly a systemic or constitutional, physiological condition, practically extending in its varied phenomena throughout the whole month, menstrual and intermenstrual. The uterus is the organ for the local expression of menstruation, but is not the only part of the female economy in which the nervous and vascular phenomena of menstruation in their entirety are manifested. For instance, at the close:

<sup>&</sup>lt;sup>1</sup> See original article, page 164.

of the menstrual flux the blood supply gradually increases, the vascular tension increases, the body weight augments, the temperature becomes higher, the physical and mental vigor is promoted. These conditions gradually increase until near the commencement of the next menstrual flow, when they have reached a maximum. So soon now as the menstrual flow has commenced we have not only a discharge of blood from the uterus and more or less of a disintegration of the endometrium, but we also observe a diminished vascular and nervous tension, a lowered temperature, a decrease in body weight, a decrease in physical and mental vigor, strength, and endurance. If now, from any cause—as absence, imperfect development, obstruction, or atrophy of the uterus, or organic changes in the endometrium -menstruation cannot occur through its usual channel, some other part of the female economy, as the rectum, nose, throat, bronchi, stomach, etc., may assume the function as a compensatory movement. The increased vascular and nervous tension manifested everywhere will demonstrate itself by a compensatory discharge of blood or mucous secretion from that part of the body where there is the least vital physical resistance. For instance, it will be the rectum, if the rectal mucous membrane is congested, the seat of hemorrhoids, fissure, etc. Vicarious menstruation is then Nature's method of relief under these circumstances. Menstruation is a depurating process, and if the uterus does not menstruate, and no organ supplements the uterus, the system is unrelieved. Many of the nervous phenomena incident to the change of life are attributable to Nature's slowly perfected accommodation to the cessation of this periodical sanguineous loss of blood of thirty years' duration. To correct vicarious menstruction we must improve the general health, correct any pelvic abnormality, and overcome any local lesion where there is any diminished physical resistance which favors the local vicarious hemorrhage or discharge of mucus.

Dr. A. W. Johnstone had seen but two cases of vicarious menstruation—one when a girl had been gored so as to injure both uterus and vagina; he was called on after marriage to operate for non-ruptured hymen; she had vicarious menstruation from bowels; had hemorrhoids; sexual appe-

tite was good.

In another case, which came under his observation a few months ago, there was frequent hemorrhage from the stomach. He curetted the uterus, and the patient has since had none of her former trouble.

He was present in London when Dr. Barnes read his paper

on this subject.

The consensus of opinion appeared to be that when the

flow appears elsewhere the endometrium is tough. Ordinarily it is soft and tender; the increased vascular fulness ruptures the vessels and the pressure is relieved.

The endometrium can be absent, as well as either uterus or vagina; and he believes it can be rudimentary, even if

tubes, ovaries, and uterus are present.

He entered a protest against the statement that ovulation ceased at the menopause; it began in the fetus and continued till death.

Menstruation is under some nerve control and not under control of the ovaries; it is an established fact that well-developed eggs are found both in the fetus and in the centenarian.

Dr. T. A. Reamy said he had already reported a case to the Academy of Medicine who only menstruated during pregnancy and never at any other time, the flow lasting usually about four days. There had been three years between the children, and the menstruation occurred regularly during both pregnancies. The placenta each time was attached high up, and the flow probably came from the lower segment of the uterus. Under the theory that menstruation is due to increased pressure, it is reasonable to suppose that this increased pressure in her case occurred only during pregnancy.

A society belle was engaged to be married to a gentleman who was obnoxious to her parents, for which reason the engagement was broken off. Although up to that time she had always menstruated regularly, she never did afterward. He examined her carefully under ether; palpated the ovaries; the anatomy seemed perfect. She had been married for fourteen years; was sterile. Sexual appetite was good. Her condition evidently was induced from shock to the nervous system. It is an interesting question why this increased vascular tension

never after occurred in this particular case.

He doubted very much that continuous ovulation had been proven; in fact, did not believe it had. Had often examined old women and found the ovaries atrophied; likewise was frank to state that he had seen women of 60 in whom ovulation was perfect.

It would be very interesting if Dr. Withrow would be able to get a post-mortem in the case reported and throw some

light on this mooted question.

Dr. Johnstone said that the fact that ovulation continued after menstruation had ceased was conclusively proven by Ritchie twenty years ago; reference was made to it by Law-

son Tait in his last book.

In any old woman the ovisaes could be detected, unless there had been destructive changes by disease. He felt that the accumulated evidence on this subject is sufficient to establish the fact. The uterus is quiet after the menopause, but ovarian trouble is not so limited, which certainly would be the case if the ovaries were quiet. Menstruation is the natural method of getting rid of surplus material put there for the nourishment of the child.

The question why a woman reaches the menopause, what causes the changes in the endometrium, and what presides over these changes if not the ovaries, in the present state of our knowledge is not answerable. No one is able to say what part of the nervous system presides over these changes, but it can be said that they are presided over in the same way as the thymus gland—it is Nature's law.

At the menopause the endometrium becomes hard and firm, is like a scar, and can in no way form a placenta. He is not able to state the presiding cause of this change, but it most certainly is the endometrium that undergoes the physi-

cal alteration.

Dr. Withrow, in closing the discussion, said: The title of the paper has been criticised and called a misnomer. The term congenital amenorrhea was used advisedly. The term congenital, applied to a condition or function, does not mean that it was present at the birth of the individual, but that it may have been provided for by heredity, and not the condition but the tendency to the condition was inherited.

We speak of a girl of 13 years having congenital syphilis, but do not mean that she had syphilis at birth. She only had

the undeveloped germs of syphilis when she was born.

All normal females are born with organs ready for such development as will lead to menstruation. The tendency to menstruation is congenital. On the other hand, such a case as presented here evidently was not born with such a tendency, probably without the proper organs for the menstrual function, and consequently the failure to establish the catamenia at the proper period was due to a congenital defect—therefore a congenital amenorrhea.

The speaker did not believe with Dr. Johnstone that ovulation was kept up from the cradle to the grave. The presence of the ovisac does not mean that ovulation is going on; only the corpus luteum can prove that, and even that is insufficient

evidence.

Stevenson's premenstrual pressure is a reasonable theory, which the facts substantiate fully; but the evidence that the pressure was trying to relieve itself at the endometrium in

the cases reported was not present.

If such attempt had been made, and if, as Dr. Johnstone supposes, there was a barrier in the form of an infantile uterus, then there must have been endometrial dysmenorrhea, which was not present in either of the cases.

# TRANSACTIONS OF THE NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, December 16th, 1891.
Egbert H. Grandin, M.D.,
Chairman.

ANGIOMA OF THE LIVER.

Dr. H. T. Hanks related the history of a case in which, on performing laparatomy for some rather obscure tumor between the ribs and ilium on the right side, he found a tumor of the lower lobe of the liver which extended three inches beyond the median line. Puncture caused thin, venous blood to spurt out freely, and, recognizing that the tumor was an angioma, he closed the abdominal wound and subsequently treated the patient by galvanism, one large sponge electrode being pressed well up under the ribs against the liver. Only once did he use galvano-puncture. The tumor had decreased about two-thirds in size, and the patient had become able to do her housework.

Dr. Geo. W. Jarman read a paper entitled

INTRALIGAMENTOUS RUPTURE OF ECTOPIC GESTATION, AND ITS EXPECTANT TREATMENT.

The main points of diagnosis and treatment are clear. Not a few writers seem to have confusing ideas concerning the following subjects:

Causation and pathology of rupture.
 Course of hemorrhage after rupture.

3. Differential diagnosis between intra- and extraperitoneal rupture.

4. What cases should be operated upon and what treated

otherwise.

The writer cites two cases which were treated by the ex-

pectant method.

1. He accepts Tait's theory as to causation and pathology of hemorrhage—that some previous tubal disease can usually be elicited by a careful history. Destruction of cilia, and old adhesions constricting the lumen, are, perhaps, the most fre-

quent causes. The rupture takes place at the point of least resistance, which is either at the placental site, if gestation has progressed to that extent, or at the site of the future placenta, inasmuch as the chorionic villi are longer at this point.

2. The rupture takes place into the folds of the broad ligament, if this point of least resistance is situated in that portion of the tube bounded by broad ligament. The source of the hemorrhage has received but little attention from previous writers, the majority of them referring to it as proceeding from the torn arteries and veins in the tubal wall. The writer holds that the great amount of blood found in the abdominal cavity at time of operation or in post-mortem cases cannot proceed from such a small source. He cites cases of ruptured pyo-salpinx and their comparative freedom from hemorrhage to prove this point. He claims that the hemorrhage comes from the sinuses which normally exist in the tube. but which have increased in size coincident with the pregnancy. Three reasons are adduced to prove this: 1. Actual observation that such sinuses exist by Leopold, though this writer does not refer to them as the sources of the hemorrhage. 2. From a histological standpoint, tubes and uterus being developed from the same source. 3. That the greatest argument in favor of this theory is that clamping the broad ligament between the ruptured tube and the uterus stops the hemorrhage, although the tube gets its arterial supply from the ovarian artery, which is not compressed by the clamp when placed in this position; further, that if the ovarian artery only is clamped in the infundibulo-pelvic ligament, the hemorrhage is not controlled.

The writer shows that the course of the hemorrhage is governed by the relationships of the peritoneum; that the blood forms a tumor which bulges into the vagina and can be felt above the pelvic brim; that the hemorrhage always ceases when the resistance of this newly formed cavity equals

the force of the blood current.

3. The differential diagnosis between an intra- and extraperitoneal hemorrhage is usually simple. The symptoms of shock and loss of blood are very much greater in the former. The hemorrhage continues in one, but necessarily ceases in the other. The mass formed by an extraperitoneal rupture is easily felt in the vagina, crowding the uterus toward the opposite side.

4. The treatment according to the expectant plan simply means the readiness on the part of the physician to recognize and meet any indication which may arise. The danger of death from loss of blood, when the rupture is into the folds of the broad ligament, is almost nothing. The writer has been unable to find any authentic case proving that death has ever

followed such an accident from primary hemorrhage. The puncturing and evacuation of the tumor is not advised, since we relieve the pressure upon the open sinuses and invite a recurrence of the hemorrhage. In the light of cases treated by the expectant method, the electrical treatment seems to be a post and not a propter hoc. Laparatomy is excluded because (a) of its difficulty of performance in such cases; (b) the possibility of sepsis; (c) and because the patient is not in such peril as to warrant so grave a procedure.

The prognosis is good. Very few cases become septic if let alone. Nature takes care of and absorbs the blood clot. Should fetal life not be destroyed at the time of rupture, the removal of the embryo by laparatomy is indicated as soon as

a continuance of gestation is determined.

Dr. Coe remarked upon the singular silence of most authors as to the source of the hemorrhage in rupture of ectopic pregnancy. How could there be such a tremendous outpouring of blood, even jeopardizing the life of the patient, if it came only from the tube? The explanation of the author that it came from the sinuses more than from the artery and vein in the tube seemed quite reasonable. He had not been able to convince himself of the occurrence of secondary rupture into the peritoneum.

DR HANKS did not believe there was danger of secondary rupture in tubal pregnancy taking place into the peritoneum. He approved of expectant treatment, and spoke of the importance of a change in the menstrual periods in making a

differential diagnosis between the forms of pregnancy.

Dr. Cregan referred to a case which was supposed to be one of tubal pregnancy, but, having a scarcity of beds in the hospital that day, the patient was told to remain at her home until symptoms of fainting, etc., should appear, then to call a cab and come to the hospital at once. Symptoms of rupture took place during the night. She was brought to the hospital. The diagnosis was confirmed by finding a tumor. She was kept quiet in bed, only expectant treatment being resorted to. Was convalescent at the end of three weeks. Some time subsequently she was operated upon for rupture of pyo-salpinx on the opposite (right) side, and at this time they found, on examining the left tube, that it was thickened and gave evidence of having formerly been the seat of tubal pregnancy.

Dr. Locke exhibited a volume of the Philosophical Transactions which contained an illustration and description of a case of extra-uterine pregnancy occurring in 1817. The case had gone along for quite a time after primary rupture in the tube, then ruptured into the peritoneal cavity, and the patient died. The picture showed what was found at autopsy.

The Chairman, being requested to make some remarks, said he was not sure but that, in the case which he had related at the last meeting, of puncture per vaginam in a supposed case of tubal rupture, the patient would have made a good recovery without interference. He was disposed to think, from what had been said during the evening, that cases heretofore reported as supposed secondary rupture into the peritoneum were cases of error in diagnosis. Rupture, it would seem, should take place in the direction of least resistance, which was not into the peritoneum.

Dr. H. J. Boldt read a paper on

### SUPPURATIVE OÖPHORITIS.

In his opening remarks he referred to the common occurrence of the suppurative processes in the pelvis which were usually referred to the Fallopian tube. But that form of inflammation called suppurative ophoritis, leading to a partial or a total destruction of one or both ovaries, is not quite so common. Obviously this process in most instances arose from contact of the ovary with a focus of suppuration in its immediate vieinity—the broad ligament. Often at antopsy we found no difference in the appearance or consistence of the remnants of the ovary and the adjacent considerably thickened pseudomembranous material of the broad ligament. Here it was necessary to resort to the microscope in order to determine how much of the original ovarian structure was left, the main guides then being the tortuous arteries of the medullary portion of the ovary as well as the remnants of the menstrual follicles. He said he had come into possession by operation of some specimens showing a marked degree of suppuration of the ovarian tissues, which he proposed to describe, especially for the reason that the manner in which inflammation and suppuration could be established in these organs had not yet been subjected to microscopical tests.

Dr. Boldt then described the changes which had taken place in the various tissues which had composed the organ. He said that from his description it would seem that he differed from the views of many pathologists, who held that inflammation and suppuration were due to nothing but an emigration of colorless blood corpuscles or leucocytes from the capillaries and small veins. He had satisfied himself that the main mass of inflammatory tissue was furnished by a previous fibrous connective tissue, often a liquefaction of its basic substance. As long as the newly formed inflammatory corpuscles remained interconnected the original character of the tissue, though unquestionably greatly altered, still remained. It was only after breaking asunder of the inflam-

matory corpuscles that the tissue became entirely destroyed, the corpuscles previously termed inflammatory now becoming

ons corpuscles.

The final result of the inflammation of the myxomatous tissue was identical with that of fibrous connective tissue. It was transformed into a mass of inflammatory corpuscles, with a complete disappearance of the follicular wall and a final breaking-up into pus corpuscles.

Regarding the smooth muscular tissue, it was impossible to study the inflammatory changes of this structure in the cortex, since it was so closely mixed with fibrous connective tissue. The result of the inflammation was so similar in both varieties that the source of the inflammatory corpuscles could not be readily traced. The middle coat of the arteries, however, afforded an excellent opportunity to study the myositis.

In the process of suppuration the tissues filling the centres of the arteries broke up into inflammatory corpuscles the same as did the muscle coat, and all vessels perished by being first transformed into inflammatory corpuscles and afterward dis-

integrated into pus corpuscles.

Two pronounced epithelial formations were concerned in oöphoritis, namely, the Graafian follicles and the surface epithelium of the ovary. In one of his specimens the follicular wall appeared to be broken up into spindle-shaped bodies and inflammatory corpuscles, which undoubtedly had their origin from fibrous connective tissue; the shining epithelium of the follicle had become enlarged and irregularly shaped, their nuclei had assumed a homogeneous, glassy appearance, and their number appeared augmented four to six times, evidently in consequence of their division. The protoplasm of the epithelia was coarsely granular, and in some places there were distinct marks of division, splitting up the protoplasm into pieces of various sizes by means of delicate thorny projections. It seemed plain enough that the lining epithelium of a Graafian follicle broke up into a small corpusele, as did also the surrounding fibrous connective tissue. The surface epithelium of the ovary was found lining the abscess cavity in one of his cases. Here he could trace the row of the columnar epithelia from comparatively insignificant inflammatory changes up to their destruction into pus corpuscles. The most conspienous change of the epithelia was their transformation into so-called mother cells.

True ovarian abscess of non-puerperal origin is very rare. If the histories of the cases published are carefully considered, it will be seen that they are subsequent to a puerperium—including abortion and miscarriage as well as delivery at full term—or that they are not ovarian abscess at all, but are tubo-ovarian abscess or suppurating ovarian cystomata. It is evi-

dent, from the anatomy of the ovary, that a true ovarian abscess cannot attain a large size; it is very exceptional for it to attain a size larger than an English walnut—very rarely does it get larger than a hen's egg. No case can be called an ovarian abscess with certainty until anatomically proven to be so.

The prominent symptoms of the cases of chronic ovarian abscess are pain in the ovarian region, which may radiate to the hypogastric and sacral regions. It is a dull pain, sometimes sharp and lancinating; it differs from the pain in salpingitis in not being modified by menstruation. Reflex nervous symptoms are sometimes present, such as headache, gastric disturbances, etc. Physical examination shows a condition similar to an oöphoritis and peri-oöphoritis and perimetritis. This chronic suppurative ovaritis may extend over a long period of time. When an acute process is implanted on this chronic one, a change takes place; the patient has slight chills at irregular intervals, the pain is increased and localized more in the ovary, which increases in size, fluctuation being more or less prominent. The temperature rises and the pulse becomes more rapid.

The treatment varies. Chronic suppurative opphoritis may be treated locally for some time on account of the inability to make a clear diagnosis of the condition; but when, though the patient may be temporarily relieved of her pain, the physical signs do not improve, abdominal section should

be resorted to and the suppurating organ removed.

If the case be subacute or acute, the abscess, if it have thin walls so that there is danger of rupture during enucleation, should invariably be aspirated before an attempt is made to remove it, on account of the extreme virulence of the pus in the majority of such cases. It is of course understood that in this class of cases the diagnosis can always be made that there is a pathological condition present which requires an abdominal section.

Where the abscess is unusually large, it is so adherent to intestines and pelvis that enucleation without tearing the walls is out of the question. When it is also adherent to the floor of the pelvis, it should be opened per vaginam and drained and treated like an ordinary pelvic abscess. This can be readily done, because, having the abdomen open, we can guide our instrument, with which we perforate, without trouble.

The prognosis, if the peritoneal cavity can be kept free from pus, is favorable.

The discussion on Dr. Boldt's paper was participated in by Drs. Edebohls, Coe, and others, nearly all of whom agreed that strictly ovarian abscess was usually quite small and situ-

ated high, so that only very seldom could puncture be practised by way of the vagina. The plan approved of was to open the abdomen, usually to first aspirate and disinfect the abscess, then enucleate. The pus, being very pungent, was likely to set up fatal peritonitis should any of it escape. The possible origin in the gonococcus entering by way of the lymphatics instead of through the tubes, and of intestinal germs or poisons reaching the ovary in the same way, was referred to.

### TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

Stated Meeting, December 15th, 1891.

The President, CLEMENT CLEVELAND, M.D., in the Chair.

A PECULIAR ERUPTION ON THE FACE ASSOCIATED WITH MENSTRUATION.

Dr. George M. Edebohls presented a girl, 19 years of age. who gave a history of normal menstruation from the eleventh to the fifteenth year. Then a rash began to appear on the face two days before each menstrual period, and continued during the flow. The eruption would appear first as a patch of erythema on the right side of the face, extending from the malar bone to the angle of the jaw. On the first day it appeared as an erythema; on the second the patch would become elevated; on the third day vesicles would appear on the top of the patch, and on the fourth day these would dry up. This phenomenon recurred regularly with each menstrual period until she was 18 years old, when it disappeared for a period of nine months. During the past three or four months it has appeared as before with each menstrual epoch, and at the present time she is menstruating. She has a double catarrhal salpingitis of several years' duration, and also an anteflexion of the uterus.

Dr. Edebohls also presented two specimens. The first represented

FATTY TUMORS OF THE OMENTUM SIMULATING FIBROMATA OF THE UTERUS.

The second specimen was a

LIPOMA OF THE OMENTUM SIMULATING INTRALIGAMENTARY FIBROMA.

He said that he had now performed laparatomy three times

in eases in which tumors of the omentum were found resembling fibromata of the uterus.

Dr. J. R. Goffe presented the

#### LEFT TUBE AND OVARY

which had been removed for disease either of syphilitic or puerperal origin. The microscopist had not yet made his report on the specimen.

He also presented a vermiform appendix which had been removed during an operation for suspension of the prolapsed

uterus

At the time the tube and ovary were removed the ovary was congested and so firm to the touch that it was a question whether this resistance was due to fluid or to hypertrophy of the wall.

Dr. W. R. Pryor said that some experiments had been made by German gynecologists, in which they had produced erythematous eruptions on the surface of the body by the application of leeches to the cervix uteri in cases of anteflexion associated with dysmenorrhea.

Regarding the tumors of the omentum mistaken for fibroids of the uterus, he said that, according to his observation, where the omentum had descended and was adherent it had been, with but one exception, on the right side of the uterus. In the one exceptional case it was low down on both sides.

Dr. A. F. Currier said that the ease of menstrual eruption presented by Dr. Edebohls reminded him of certain eases of purpura in which the eruption became more marked at each menstrual epoch. He also ealled attention to the fact that birth-marks were likely to assume a deeper hue at the menstrual periods.

Dr. H. T. Hanks recalled the case of a patient, presented to the Society by Dr. Peaslee, who had an herpetic eruption under the arm at each period. In the lower animals, as well as in women, it was expected that any herpetic eruption on the skin would become more deeply congested during the

flow.

Dr. Goffe said that he had seen one patient who bled more

or less at the periods from under the arm.

Dr. Edebords said that the tumors in the case presented by him were not confirmatory of the statement made by Dr. Pryor to the effect that where the omentum had descended it was almost universally on the right side. In his first case the tumor was anterior to the uterus. In the second, one of the tumors was on the right, one on the left, and one on the top of this organ. In the third case the solitary tumor was in the left broad ligament. Dr. Edebohls asked, concerning Dr. Goffe's second case, whether he had understood him aright that it was his intention to suspend the uterus for the relief of prolapsus. Having received an affirmative reply, he stated that, according to his observation, prolapsus uteri could not be relieved, even temporarily, by shortening the round ligaments, whether within the abdomen or without.

Dr. Wylle spoke in terms of praise of the Alexander operation for overcoming what he called posterior prolapsus, the same class of eases in which Dr. Edebohls said afterwards that he himself had obtained good results. The form of prolapsus, however, to which Dr. Edebohls had specially referred was that in which the organ had descended nearly to

the vulva.

Dr. Goffe said that this patient had been subjected to almost every conceivable operation for the relief of her procidentia, with the exception of shortening the round ligaments. Operations had been performed on the cervix, perineum, and anterior wall of the vagina. He had concluded to shorten the round ligaments, and he expected a good result, for the reason that in some other cases the prolapsed organ had remained suspended after this operation, although it was true that, according to his usual custom, the patients had worn a pessary for some months after the operation.

Dr. Wylle said, regarding the vermiform appendix being out of its normal position, that he had met with a number of such cases during the removal of diseased tubes and ovaries. In a number of such instances it was difficult to say whether the abscess originated in disease of the tube or disease of the

appendix.

Dr. J. E. Janvein presented the pathologist's report on the specimens of diseased tubes and ovaries which he had exhibited at a recent meeting. They were found to show char-

acteristic syphilitie degeneration.

He also referred to the case of a patient in the Skin and Cancer Hospital on whom he had recently operated for syphilitic degeneration of the tubes and ovaries. The vermiform appendix was adherent to the tube and ovary on the right side and was removed with them.

#### HYPOSTATIC PNEUMONIA FOLLOWING LAPARATOMY.

Dr. A. P. Dudley related the ease of a patient who had during four years suffered with what was supposed to be gall stone working its way down the duct. Later she had consulted Dr. Janeway, who informed her that she had no gall stone, and she was sent to the speaker for operation. She had been delivered of a child seven weeks before, and since

then the pain had increased to such an extent that she had become a confirmed opium-eater. During the operation it was shown that no gall stone existed, but a double pyo-salpinx was removed and adhesions to the intestine were broken up. Over an hour was consumed in getting out the pus sae, during which time she inhaled nearly one pound of ether. The point on which he desired information related to an excessive secretion of mucus in the lungs. It began immediately after the operation and had continued ever since. At present there was evidence of hypostatic pneumonia. The accumulation of mucus had greatly obstructed the pulmonary circulation and embarrassed the action of the heart. The pulse had run up to 160 per minute and no longer responded well to ammonia, digitalis, strophanthus, and the hypodermic administration of atropine.

Another point of interest was the extreme friability of the uterine end of the tubes, which broke off so short, after the application of the ligature, that pus escaped from the horns of the uterus into the peritoneal cavity. To meet this complication he sewed the tubal openings in the womb over and

over with catcut.

Dr. Florian Krus said he had no comment to make on the development of the pneumonia in this case, but he wished to say that he thought it would have been preferable to extirpate the entire uterus to sewing the tubal openings in the manner described.

Dr. Wylle said that he had long since discovered that it was unsafe to operate upon a patient until after the opium habit, if it existed, had been brought well under control. It added greatly to the difficulty of knowing how much morphia to give the patient, and it was quite possible that it was responsible for the secretion of mucus. It was not improbable that the prevailing epidemic of la grippe might have had something to do with the development of this complication.

He also said that he would not operate ordinarily for pyosalpinx, if subinvolution existed, until the size of the womb had been reduced. He agreed with Dr. Krug that, under the circumstances, it would have been better to do hysterectomy. Rather than remove the diseased tubes and ovaries before involution had been completed, he would drain by the vagina. In some cases, where there was bulging in the culde-sac, the drainage could be established without opening the abdomen. If, however, there was any danger, he would prefer to do a laparatomy and thus have a more definite guide in making the puncture. The more radical operation could be done subsequently.

Dr. Hanks recommended the use of oxygen for the exces-

sive secretion of mucus, as two weeks ago, at the suggestion of Dr. George E. Abbott, he had successfully treated a similar case by the administration of this agent.

Dr. Currier heartily indorsed this suggestion.

THE PRESIDENT stated that he had had one case of hypostatic pneumonia following Pryor's operation for ventral hernia. The pneumonia went on to resolution. The treatment had consisted in counter-irritation by a blister over the base of each lung and sustained stimulation.

Dr. Florian Krug read the paper of the evening, entitled

TOTAL EXTIRPATION VERSUS LEAVING THE STUMP IN OPERATIONS
FOR OVARIAN FIBROMATA.

The removal of the fibromatous growths of the uterus, he said, was an outcome of the marvellous strides made in abdominal surgery during the last fifteen years, and was a rational and justifiable procedure. Previous to 1875 abdominal section for fibroids was only occasionally done, and then usually as a result of an erroneous diagnosis. The earliest intentional operations were for pediculated subscrous fibromata, and the credit of placing this operation on a scientific basis belongs to Jéan, of Paris, who was the first to operate on a large series of such cases. The astonishing results which he obtained were chiefly instrumental in establishing hyste-

rectomy as a recognized surgical procedure.

The names of Hegar and Kaltenbach were inseparable from the history of the extraperitoneal treatment of the stump, and almost as old as the operation itself was the controversy among abdominal surgeons concerning the comparative advantages of the extra- and intraperitoneal methods. Schröder, of Berlin, has been the chief advocate of the latter method. Most American text books mention only these two methods of treatment, and yet the author thought that total extirpation without leaving a stump was entitled to a thorough trial, and he believed it would eventually be recognized as the ideal method. The first to adapt Freund's method of extirpating the cancerous uterus to the treatment of the fibromatous uterus was Prof. Bardenheuer, but he was soon followed by Martin, of Berlin. More recently Chrobak has published seventeen cases which he had treated in this way without a death. On this side of the Atlantic, however, the author knew of only two surgeons besides himself who had urged the claims of this operation. His first operation was done on May 13th, 1890, and the case, with the specimens, had been presented to the Society. Since then he had operated six times, and most of these cases had also been reported to the Society. The technique of the operation in its entirety was essentially original with him, and was based on a large experience with vaginal hysterectomy. It was important to keep the stumps of the broad ligament from contact with the intestines, in order to prevent the formation of intestinal adhesions and possible obstruction of the bowel. Perfect drainage was also a most important feature, and, as the menstrual and lochial discharges find their natural channel of exit through the vagina, he thought it was most reasonable to look upon this as the best outlet for pathological discharges following the extirpation of the organ, provided that infection from without could be guarded against. This method of infection from without can be effectually prevented by the use of an iodoform-gauze dressing; and when infection occurs in spite of this dressing, it is not because germs have found their way through the gauze, but because the vagina has not previously been thoroughly freed from pathogenic germs. Too many operators rely upon a douching of the vagina with germicides to remove these germs, notwithstanding that bacteriological research has shown that the vagina and the cervical canal are frequently the domicile of streptococci and staphylococci. No one relies upon an antiseptic irrigation alone to render the field of operation aseptic, when making an abdominal incision, and yet many surgeons will open the peritoneal cavity from below without taking the precaution to thoroughly scrub the parts, and if the results are disastrons they attribute them to infection from without. The best proof that infection from without was a purely imaginary danger was the fact that in his last series of vaginal hysterectomies the gauze dressing had been allowed to remain in the vagina from six to nine days and had kept perfectly sweet. The proper sterilization of the vagina could only be accomplished by scrubbing the vagina with a brush, and cleansing it with mollin containing ten per cent of creolin, previous to giving the usual bichloride donche. The author was an enthusiastic advocate of the Trendelenburg posture, and thought that those who made use of this position would find the staff and other special instruments devised by Dr. Eastman nunecessary. He advocated a generous abdominal incision, on the ground that one inch too much added but little to the surgical risk, while one inch too little seriously hampered the surgeon and unduly prolonged the operation. He had never seen any advantage in diminishing the size of the tumor before operation, by any of the methods which had been recommended; nor had he had occasion to resort to the temporary use of the elastic ligature to control hemorrhage, as the Trendelenburg posture allowed of easily securing the blood vessels before cutting. A large, stout aneurism needle was handy for this purpose, and he preferred a ligature of carefully sterilized, braided silk. Where the fibroids have grown to the uterine walls without unfolding the layers of the broad ligament, the operation is very easy, three ligatures on either side being sufficient—the upper ones for the tubes and ovaries, the middle oncs for the broad ligament, and the lower ones for the uterine arteries. Hemostatic forceps were temporarily applied to the uterine end in order to prevent the venous reflux from the uterus and tumor. The tumor is then tilted over toward the symphysis, and in most cases the cervix will protrude sufficiently in Douglas' pouch to indicate the point for incision. The bladder is separated from the uterus, and if the uterine arteries have been well tied no hemorrhage will follow the connecting of the anterior and posterior incisions. The three ligatures, which have been left long, are brought out through the vaginal opening, when a gentle pull will invert the stumps sufficiently into the vagina to keep their raw surfaces away from the intestines. The bottom of the pelvis is packed with strips of iodoform gauze, the ends of which protrude into the vagina in order to facilitate their removal. Where the tumor in the course of its growth has unfolded the broad ligament and pushed up the serous covering, the serosum must be incised and the intraligamentous part of the tumor shelled out. raw surface thus left should be shut off from the general peritoneal eavity, so as to avoid intestinal adhesions. The author considered perfect drainage a prime factor in the easy convalescence of these cases, and drainage through the vagina dispensed with the uscless and harmful flooding of the abdominal cavity with hot water. In order to facilitate drainage, the patient is placed in a semi-recumbent position as soon as she has recovered from the anesthetic, and on the following day salines are freely given, and, if necessary, a high enema. When the iodoform gauze is removed on the eighth day, the opening into the peritoneal cavity is found closed by healthy granulations, and the wound is then irrigated with Thiersch's solution. On the tenth day the abdominal sutures are removed. His patients were all up during the third week and left the hospital soon after.

The following cases were cited as illustrative of the method

advocated in the paper:

Case I.—This patient had noticed, eight years before coming under observation, that there was a hard lump in the left side of the abdomen, which during the last six months had increased so rapidly as to interfere with her earning her living. In view of the rapid growth of the tumor and the rapid deterioration of her general health, it was decided to operate at once. The operation lasted fifty minutes. Her recovery was uneventful, and she left the German Hospital three weeks later.

Case II.—This patient, who was 39 years of age, gave a normal menstrual history up to about three years before admission, since which time the abdomen had been rapidly swelling. At the time of her admission the tumor reached to the umbilious, the patient was much exsanguinated, and previous treatment by the galvanic current had not been of benefit to her. The operation was easy and was completed in less than half an hour. Owing to improper preparation of the catgut, as was afterwards learned, a mural abscess developed, and, although it was freely incised and drained, the added drain on the patient's vitality was more than she could stand, and death occurred on the ninth day after the operation. The bowels moved every day after the operation, and there was no tympanites or vomiting, so that it was possible to exclude intraperitoneal trouble. At the post-mortem examination the stumps were found to be perfectly healthy, the heart muscle was fatty, and the abscess cavity was lined with dirty gravish tissue.

Case VI.—The patient was 36 years of age and first noticed a swelling of the abdomen about three years before. At the time of admission the tumor had reached to the ensiform cartilage. The patient was suffering from Pott's disease and was quite anemic, so that her debilitated condition rendered an operation peculiarly risky. She made a per-

fectly normal recovery.

Out of six cases which he had operated upon in this way during the last fifteen months, only one had died—under circumstances already mentioned; the five others had a practically normal temperature during convalescence and had been re-

lieved from their former symptoms.

The author next stated his reasons for preferring total extirpation to either the intra- or extraperitoneal methods of treating the stump. The extraperitoneal method was generally conceded to be safer as regards the liability to hemorrhage from shrinking of the tissues, but the fleshy stump, which is destined to slough away in close proximity to the peritoneal cavity, offers a not improbable source of septicemia. The sloughing process also makes convalescence very tedions. Ventral hernia is a rather frequent sequel of this operation, and the fixation of the cervix uteri in such an unnatural position often gives rise to pain and bladder symp-Since it is generally conceded that the danger from a laparatomy for fibroids arises chiefly from the stump, the removal of this objectionable feature is a distinct advance in the treatment of this condition. In addition to the advantages already mentioned, this operation may be done in much less time than is required where the stump is left, and the after-treatment is not only much more simple, but is more agreeable to the patient.

Dr. H. T. Hanks said that three years ago he saw Dr. Stimson operate so successfully according to this method that he had determined to try the operation, but he had made his patients so comfortable by means of galvanism that an opportunity for performing the operation had not presented itself. He believed that the method described in the paper was an ideal one, and that as soon as we could differentiate those cases which can be relieved by galvanism from those which require operation we shall make rapid progress in the treat-

ment of this class of cases.

Dr. W. GILL WYLIE said that in 1882 he had operated upon a woman having a tumor which weighed sixty pounds and measured six inches in diameter. In this case the elastic ligature cut through the broad ligament and the patient lost at least one quart of blood. In order to control the hemorrhage the stump was pushed up with a stick surmounted by a cork which fitted into the cul-de-sac. This was one of the first attempts in this country to remove a fibroid by this operation. He had at different times employed various methods of operating upon these cases, but during the last few years he had been using in a certain class of cases an operation similar to the one described in the paper. The only criticism he had to offer on the paper was that the author seemed to advocate this operation for the treatment of a number of conditions, and while in most cases this operation of total extirpation should be selected, the operation should always be adapted to the individual case. One serious objection to the extraperitoneal method as usually performed was that when the stump is pulled up high and fixed the tving of the broad ligament may result in obstruction of the bowel. To avoid this the broad ligament should be tied and then allowed to

Dr. Johnson (a guest) said that his own experience with hysterectomy had been too limited to admit of drawing conclusions. The operation which had been described in the paper was the result of a combination of a number of operations. Freund had suggested a similar operation for the removal of the cancerous uterus. There were, of course, cases, as of the dumbbell-shaped uterus, where the pelvis is so

blocked that such an operation is hardly feasible.

Dr. Goffe said that, notwithstanding the ease with which the operation of total extirpation could be performed, he still preferred dropping back the pedicle in the pelvis. When the cervix is left the vault of the vagina and the natural support of the parts are preserved, and by covering the cervix

with peritoneum, as he had elsewhere described, and securing drainage through the dilated cervix and the vagina, he thought all was accomplished that could be obtained by the operation described by the author. He had operated upon five cases according to this method, with one fatal result.

Dr. Edebohls thought the views expressed in the paper were in the main based upon sound surgical principles, but he did not believe that the operation should be indiscriminately applied to every case of fibroid tumor of the uterus which required operation. His personal experience with operations on uterine fibromata embraced only six cases. In one of the fatal cases he shelled out fourteen fibromata, and found that the whole pelvis was filled with them, so that the broad ligament was not recognizable. The patient died from shock very soon after the operation, and on the autopsy it was found that thirty-four tumors had been left. In two of his cases he had used clamps instead of ligatures to secure the broad ligaments, but in one case the clamps slipped, and he thought that in the future he would discard them.

Dr. January thought the operation described by the author was a combination of Freund's operation for carcinoma and vaginal hysterectomy for the same purpose, and it seemed to him to be the ideal method for the removal of large fibromata. But where the fibromata were small and the uterus could easily be removed by vaginal hysterectomy, he would certainly prefer this latter operation. He could not see how pulling up the stump into the lower angle of the incision and treating it extraperitoneally could draw upon the sigmoid flexure sufficiently to cause intestinal obstruction, as the sigmoid flexure is about two and a half inches posterior to, and on a line with, or slightly above, the lower angle of the incision.

Dr. Wylle replied that he did not mean to say that in ordinary cases intestinal obstruction would occur from pulling on the stump. In his cases it might have been due to exudation around that portion of the gut; but it was certainly one

of the accidents which he had encountered.

Dr. Lapthorn Smith, of Montreal, said that he had treated upward of sixty cases of uterine fibroids, and, with the exception of three, they had been made so comfortable by the treatment with galvanism that he had not felt warranted in operating. In the three cases in which he was induced by the patients to operate, he performed hysterectomy and treated the stump extraperitoneally. He operated rapidly, left no raw surface in the abdomen to cause adhesions, and his patients had recovered speedily and without rise of temperature. His predecessor in the chair of gynecology had performed nine hysterectomies, in eight of which he had used

the intraperitoneal method. The speaker had assisted him in four, all of which had proved fatal. He had accordingly urged the adoption of the extraperitoneal method, and this was done in the ninth case, which made a good recovery. He preferred silkworm gut for sewing up the abdominal wound, and at the end of one month, when he came to remove them, they were found perfectly clean and sweet. His patients had not had any stitch abscesses, and he attributed this to the fact that the silkworm gut could be left in sufficiently long to secure thoroughly firm union without danger of sepsis. After the operation the incision was freely dusted with dry boracic acid for a week or two. This formed a dry crust which facilitated primary union. He had not found it necessarv to sew the edges of the peritoneum to the stump, for in a few minutes adhesions formed between these surfaces and closed up the peritoneal cavity. If hemorrhage had occurred inside of the abdomen in each of the cases mentioned, death would have been the result; but, as it occurred outside, it was only necessary for the untrained attendants to tighten the screw which he employed in order to control the hemorrhage.

DR. A. H. BUCKMASTER asked if Dr. Krug had employed the gauze as prepared by the wholesale manufacturers, or

whether he had had it prepared for his own use.

Dr. Dudley said that in looking up the literature of hysterectomy he had found that the credit of first doing an abdominal section for fibromata was given to our own countryman,

Kimball, of Lowell.

If the operation were well done there was no necessity for drainage after hysterectomy. The operation which had been elsewhere described by Dr. Goffe and himself did away with all drainage except what took place from the cervix. This had been corroborated by Dr. Lapthorn Smith when he spoke about the rapid gluing of the peritoneum. Just enough of the cervix (about half an inch) should be left to maintain the contour of the vaginal roof.

THE PRESIDENT said that he thought the main reason for the author considering his method of operating for uterine fibromata the simplest one was to be found in the fact that he operated with the patient in the Trendelenburg position. Where the combined operation is used for the removal of a large cancerous uterus, there was no other way, in his opin-

ion, of doing the operation satisfactorily.

Dr. Krug, in closing the discussion, said that he did not intend to exclude in his paper the enucleation of fibroids, where this was possible, or vaginal hysterectomy where the uterus was not too large to preclude this operation. He advocated the method as against the extra- or intraperitoneal

method of treatment of the stump. The name hysterectomy should not be applied to cases where the stump is left, because there is not a complete extirpation, but rather a supravaginal amputation. He had never found any sagging of the bladder or of the contents of the abdomen through the vaginal cicatrix after vaginal hysterectomy or after total extirpation, and a number of his cases had been examined by a committee from the Academy of Medicine. He considered drainage of more importance than leaving the cervical stump. Dr. Lapthorn Smith's cases must have been unusually favorable, or the operations could not have been performed in the simple manner which he described. He did not use the manufactured gauze, but gauze which had been sterilized in the hospital and impregnated with iodoform, and then preserved in carefully closed boxes. It had been suggested that where the manufactured ganze was employed it would be well to place the whole box in the sterilizer just before using it. He thought it was not so much a question as to who first did the operation as who first introduced the operation in such a way as to secure a considerable following. Referring again to the matter of drainage, Dr. Krug said that in a great many of his eases, both of vaginal and abdominal hysterectomy, treated by vaginal drainage, the quantity of blood serum discharged had been enormous, particularly where some intraligamentous nodules had required to be shelled out; yet the drainage through the vagina had been ample, and the patients had been so comfortable as not to require morphia.

Stated Meeting, January 5th, 1892.

The President, CLEMENT CLEVELAND, M.D., in the Chair.

Dr. H. C. Coe presented

AN OVARY CONTAINING A NODULE OF BONE.

The ovary was removed from a married lady who had become an invalid from a persistent and peculiarly aggravated form of dysmenorrhea accompanied by an obstinate nausea. Even between the menstrual periods she suffered considerably. Her condition was such that it had been deemed advisable to nourish her by rectal injections for one week prior to the operation for the removal of the ovaries. The operation was uncomplicated. One ovary was the seat of an ordinary cystic degeneration, and the other a chronic ovaritis and in addition contained a small, hard nodule which microscopical examination showed to be true bone. The centre of this nodule was gelatinous and consisted of bone marrow.

The pressure of this bony mass on the sensitive nerve fibres probably accounted for the intensity and intractability of her pain. The specimen was not one of a dermoid cyst with calcified matter, as there was no evidence of a cyst wall and the material was true bone. It was certainly a unique specimen.

Dr. Malcolm McLean reported a case of

A SMALL TUMOR IN THE RECTUM OF AN ADULT ASSOCIATED WITH PROLAPSE AND FISSURE.

Last December a widow, 54 years of age, had applied to him for treatment. She stated that for the past two years she had suffered from sacral pain, and a severe tenesmus which began about fifteen minutes after defecation and lasted for hours. The bowel prolapsed each time there was an evacuation. She had been told that there was an ulcer at the margin of the anus, but, although apparently skilfully treated for this condition, it had not improved. Her general health had become much deteriorated. Examination showed the pelvic organs, with the exception of the rectum, to be healthy. At the posterior margin of the anus was a deep ulcer, or rather an aggravated fissure of the anus, and after stretching the sphincter a fibrous polypus was discovered to be attached by a narrow pedicle to the posterior wall of the rectum. This tumor, which had evidently been overlooked in the previous treatment, had probably acted as a ball valve, pushing out before it the folds of the rectum, and it explained why the condition had not yielded to treatment. The removal of the tumor was followed by a rapid improvement. Dr. McLean said that in his experience, as well as in the literature of the subject, such rectal tumors were rare in adults of this age, although sufficiently common among children.

Dr. Bache Emmet said that he had observed a somewhat similar case of rectal tumor, occurring, however, in a child about 6 years of age. There was tenesmus and slight mucous discharge, and the finger could just reach a mass about the size of a walnut. Examination under ether with a speculum showed other tumors, apparently mucous polypi, situated higher up. These were transfixed and ligated, and the case promptly recovered.

Dr. H. M. Sims said that a woman about 35 years of age had come to him complaining of painful defecation, and an examination had revealed the existence of fissures of the anus, and of a fibroid polypus depending from the rectal wall about three inches inside the anus. This was pulled down and ligated, and the case went on to complete recovery.

The President said that he had had a woman about 21 years of age under treatment because of similar symptoms to those which had been mentioned, and, in addition, hemorrhage from the bowel. The latter was the chief symptom. Rectal exploration showed a spheroidal, pedunculated fibroid polypus, which was ligated and removed with a satisfactory result.

Dr. Florian Krug presented

#### A DRIED SPECIMEN OF AN INTRALIGAMENTOUS CYST.

This had been removed from a woman, 37 years of age, who had been married nine years, but had never been pregnant. She gave a history of normal menstruation, and of a steady increase in the size of the abdomen for the past three years. At the time of the laparatomy, on December 22d, the abdomen had reached an enormous size. Upon opening the peritoneal cavity the cyst was found to be covered with peritoneum, showing that the broad ligament had been unfolded and that the cyst was really intraligamentous. After removing several gallons of clear fluid the cyst was shelled out, and, after tving off the tubes, the entire broad ligament was extirpated. This was much better, in his opinion, than to form a "tobacco pouch" and attach it to the wound, as the tissues so removed were of no use to the patient, and might, if left, disturb convalescence. As the woman had about four or five inches of adipose tissue, he sewed up the muscles and fasciæ of the abdominal wound and packed the adipose portion of the wound with gauze. The chief point of interest in the operation was the *complete* extirpation of the broad ligament.

Dr. A. F. Currier referred to a case of intraligamentous cyst upon which he had operated about a year ago. The contents of the cyst were about two quarts of blood. Before the operation the tumor was thought to be a fibroid. After removing the contents of this cyst he had stitched the sac into the abdominal wound. He thought this case went towards disproving the statement made by Tait to the effect that all hematomata are due to gestation, as in this case there was no

history pointing to such a condition.

Dr. W. G. Wylle spoke of a case in which he had assisted Dr. Gerster. The cyst had dissected the peritoneum away and had come up in front, displacing the peritoneum downward. On this account the whole cyst was removed without entering the peritoneal cavity, and the proof of this was to be found in the fact that a few years later he had removed another one from the other side.

Dr. Bache Emmet thought that if these tumors had dissected up the peritoneum and made for themselves a pedicle,

they could be treated like any cyst of the broad ligament or like an ovarian cyst; but when they were embedded under the broad ligament he thought that dissecting it away would ordinarily be so tedious as to subject the patient to unnecessary risk. While admitting that there were many varieties of these cysts, he thought, as a general rule, that when they were under the broad ligament we should not attempt to extirpate them, but should pack the wound.

Dr. Wylie replied that he had never seen a pedunculated cyst of the kind described. He was of the opinion that even when the tumors were so embedded, if the operator found the true sac, it could nearly always be enucleated without causing excessive hemorrhage or unduly prolonging the operation, and he desired to advocate the removal of the cyst wherever

this was possible.

## Dr. Krug also presented

#### THREE SPECIMENS OF EXTRA-UTERINE PREGNANCY

which he had obtained during the past week. The first one had been removed by operation, on January 2d, from a woman who had been delivered of a child three years before and had had one miscarriage in the early part of 1891. She menstruated normally up to last November, when, about ten days after the expected time for the menstrual flow, she was attacked by excruciating pain in the abdomen, accompanied by a bloody discharge from the vagina. Since then there had been metrorrhagia associated with frequent attacks of severe abdominal pain. She came to Dr. Krug on December 30th, and an examination under an anesthetic on the following day showed that the uterus, although somewhat enlarged, was empty, and that there was a sensitive mass on the right side of the ute-There was also colostrum in the breasts, and this fact, together with the history, enabled the speaker to make a positive diagnosis of ectopic gestation. Primary laparatomy was performed on January 2d and the ovary and tube removed. There was some free blood in the abdominal cavity, which was not all fresh and was therefore associated with the original rupture. The sac was pretty large, and contained a coagulum which was firmly attached to the tube at its fimbriated extremity. As it was necessary to leave considerable organized and coagulated blood in the abdominal cavity, drainage was secured by packing the pelvis with gauze. No fetus could be found, but the condition could not be anything but an ectopic gestation. The patient was doing well.

 pose of curetting the uterus. The patient gave a history similar to that of the previous case, and examination showed a firm mass on the right side of and behind the uterus. The case was considered to be one of extra-uterine pregnancy, and on performing laparatomy a beautiful specimen of ectopic gestation was removed. (See figure.)

The third specimen was removed post mortem from a patient who was admitted to the hospital in a moribund condition and suffering from a bad form of septic peritonitis. Rupture had taken place, but its site was not covered with

fibrin, as were the other abdominal organs.

Dr. Cor said that he had witnessed one of the operations, and had been particularly interested because the case seemed to be not so much one of rupture of the tube as a tubal abortion, the contents of the tube having been forced out of



Tubal Pregnancy-KRUG.

the end. Some might claim that this was a hematocele due to a hemato-salpinx, but he desired to make the point that in these cases the whole tube is enlarged, instead of a portion of it as in the case under discussion. This fact was a valuable aid to diagnosis, even when the point of rupture could not be found.

Dr. Wylle commented upon the frequency with which such cases were met with at the present time, and explained it on the ground that operations were not very promptly performed upon cases of localized peritonitis associated with a tumor near the uterus and with hemorrhage or abdominal pain. In any case of peritonitis where there was no indication of the formation of pus, it was now his practice to open the abdomen at once, and in this way the formation of adhesions was avoided. Quite recently a young girl was admitted to Bellevue Hospital with local peritonitis and a tumor back

of the uterus. She suffered a good deal and had a rapid pulse, although there was not much elevation of temperature. On performing laparatomy some free blood was found in the abdominal cavity and peritonitis was just beginning. On lifting up the tumor it was evident that it was an extra-uterine pregnancy, and, although the fetus was macerated, the sac and placenta were distinct. He believed that many cases which we formerly called hemato-salpinx or pyo-salpinx were nothing more than extra-uterine pregnancies. Next to sepsis following abortions, extra-uterine pregnancy was probably the most common cause of local peritonitis—even more com-

mon than gonorrhea.

Dr. F. Foerster had had an opportunity of seeing the operation on the second case, and he wished to congratulate Dr. Krug on the brilliant diagnosis he had made, as the diagnosis of this condition before rupture had occurred was very difficult. In five cases upon which he had himself operated for this condition he had been able to make the diagnosis before rupture in only one instance. One striking feature of the specimen just presented was the enormous thickening of the tube, which is an evidence of Nature's effort to repair the damage. He agreed with Dr. Wylie as to the importance of early operation in these cases, for they were always in great danger, as no one could say when rupture would occur. The veins covering the tumor are so greatly engorged that but little pressure is necessary to cause atrophy of the wall and rupture of these vessels.

Dr. McLean said that, as the discussion was upon extra-uterine pregnancy, he thought it was an appropriate time to report upon the further progress of a case of this kind which he had first reported to the Society on November 3d. The patient had been condemned to operation by a member of this Society, but he had cured her by three applications of electricity. The tumor, which was, at the beginning of the treatment, about the size of a large orange, had been reduced more than one-half, and the patient was now going around attending to

her duties as usual.

Dr. Bache Emmet presented

A LARGE UTERINE FIBROMA SHOWING CYSTIC DEGENERATION, POSSIBLY THE RESULT OF GALVANIC TREATMENT.

The tumor had been removed, along with the entire uterus, on January 2d from a woman 40 years of age. Ten years ago the tumor was said to have been about the size of an egg. He had first seen her about two years ago, and at that time the uterus was as large as at full term. She was treated six times, at intervals of two weeks, by galvano-puncture, using power-

ful currents of one hundred and fifty to two hundred and fifty milliampères. This made some impression upon the growth, and the symptoms of weight were much relieved, so that the patient did not continue the treatment. She returned on the 14th of last October, and reported that her menses were very profuse and that the tumor had again become larger. Milder galvanic currents without puncture were employed to give her relief, and she was advised to abstain from eating farinaceous and saccharine substances. Under this treatment the menstrual flow was reduced from six or eight days to two days and the sensation of weight was diminished. About the beginning of December she began to lose flesh and appetite and to suffer from insomnia, and the galvanism seemed to cause such distress that this method of treatment was abandoned and she was advised to have the growth removed by operation. He preferred to operate upon these cases by the entire removal of the uterus, as better drainage could be secured when no stump was left. Some difficulty was experienced in this case in getting out the attachments of the bladder without removing the mass. The ovaries and tubes were found to have undergone cystic degeneration and were removed. Hemorrhage proved to be quite troublesome and prolonged the operation considerably. At its completion the patient was almost pulseless. Stimulants were freely given and inhalations of oxygen and of nitrite of amyl administered. For sixty hours not a drop of urine was passed, and then five ounces were withdrawn with a catheter. Since that time only three and a half ounces had been removed; retching and vomiting were persistent; the pulse was about 148; the temperature rose and fell at short intervals, and the patient was in a semi-comatose condition with the pupils markedly contracted. There had been no convulsions or delirium. The urine was carefully examined before the operation and had been found free from any evidence of renal disease.

Dr. Currier then cited three cases in which severe hemorrhage had been checked and the patients temporarily relieved by a radical operation.

Dr. H. J. Boldt was absolutely sure that electrolysis was one of the most dangerous therapeutic agents in our possession, if its action were not watched with the greatest care. This method of treatment had, in his own practice as well as in the practice of others, favored degeneration and suppuration of the tumor.

Dr. W. G. Wylie said that, after a careful study of the subject, he had given electricity a faithful trial, and had come to the conclusion that comparatively little effect was produced by mild currents, and that appreciable results could only be obtained when it was used as a destructive agent, and that when so used electricity was dangerons. The hemorrhage in almost all of these cases is due to the formation of fungous growths in the uterus, and if the curette be used it will stop the hemorrhage more safely and effectually than would electricity. It is dangerous to attempt to destroy a tumor by electrolysis. Again, it must not be forgotten that many of these tumors are complicated by being associated, for instance, with a pvo-salpinx or a suppurative peritonitis, in which case the electrical treatment destroys the chances of recovery. He had seen cases where large hematoceles were accompanied by a local peritonitis which had evidently been produced by the electricity. More than this, the employment of this method of treatment consumes much precious time and often allows the patient to reach a condition in which she is beyond the

reach of surgical aid.

Dr. H. M. Sims said that in 1877, when electrolysis had some advocates, he began its use with the aid of a very elaborate apparatus. He became very enthusiastic about it, and employed puncture, both through the abdominal wall and through the vagina, in a large number of cases; but as he looked back he could only recall one case that was decidedly relieved, and in this instance, after about six months of treatment, the tumor was reduced in size about one-third. He had never seen an appreciable reduction in the size of large tumors, although he had observed such a shrinkage in several small ones. The treatment by puncture into the mass of the tumor was dangerous. In the last three years he could recall at least four cases in which he was certain the use of electricity had produced the most disastrous results, and yet in all these cases it was applied by men who were thoroughly competent, and one of the cases had been treated by Apostoli himself. In this case the tumor had been treated for six months by puncture, and had been gradually broken down until an enormous abscess had formed, and a lingering and painful death from blood-poisoning was the result. In one case upon which he had operated he found that there had been no reduction in the size of the tumor by the electrical treatment, but the tumor had become honeycombed throughout by large, disintegrated masses.

Dr. H. M. Sims presented

ELONGATED OVARIES SHOWING A FORMATION CLOSELY RESEMBLING A TRUE CORPUS LUTEUM.

The ovaries were longer than cystic ovaries usually were, and they presented a peculiar worm-like appearance. The patient came to him about two months ago suffering from ovarian dysmenorrhea and a severe pain in the right side which had persisted since the birth of her child sixteen years before. The diagnosis had previously been made of cystic ovaries with adhesions and prolapse into Douglas' cul-de-sac. The uterus was normal in size, but extremely sensitive to the touch. The chief point of interest in the specimen was the peculiar formation in the right ovary, closely resembling the corpus luteum of pregnancy. Pregnancy, however, could be excluded in this case, (1) because she had been wearing a stem pessary in the uterus up to the day before this operation; (2) she had not indulged in sexual intercourse for four weeks prior to this date; and (3) menstruation had occurred ten days before the operation. Dr. Sims said he had no explanation to offer.

Dr. W. R. Pryor said that the specimen was particularly interesting, as it was not associated with a neoplasm of any kind.

Dr. F. Foerster said that the specimen illustrated a condition which he had made a subject of special study. His theory was that where, for instance, chronic ovaritis exists, the periodical congestions associated with menstruation are sufficient to cause certain progressive changes in either the false or true corpus luteum, which resulted in the development of what was probably a neoplasm. He had performed laparatomy for the relief of pain, and had found the ovary but little larger than normal, yet on cutting into it he had discovered a formation similar to the one under discussion. His studies had led him to believe that neoplasms were developed in this way which gave rise to exquisite pain. He hoped to report more in detail upon this subject at some future time.

Dr. W. R. Pryor then read a paper on

CURETTING THE UTERUS AS AN OPERATION PRELIMINARY TO LAPARATOMY.

He believed that most pelvic inflammatory diseases began and ended in metritis, whether the disease followed an abortion or a labor or a genorrheal infection. All cases of pyo-

salpinx are accompanied by a vicious form of endometritis, and even tubercular salpingitis he believed to be secondary to a tubercular endometritis. Patients often return after a laparatomy for pyo-salpinx, complaining of the same symptoms as before the operation, and the reason is, not that the operation was not well done, but the endometritis was not given sufficient attention. Dr. Boldt had reported a case in which he thought the distress caused by endometritis a sufficient warrant for the removal of the uterus per vaginam. The first laparatomy in this case for pyo-salpinx failed to give the patient the desired relief because the pyo salpinx was due to the endometritis, and, although not indorsing the performance of hysterectomy under these circumstances, he thought it succeeded in this case simply because it relieved the patient of the endometritis. The author advocated curing the cause of the pelvic lesions by destroying the inflamed endometrium before resorting to laparatomy. He referred to a case where, in the midst of a gonorrheal infection, he had operated for the relief of an endometritis and the violent pain from which the patient suffered, with the result of causing the peritonitis to subside and the distention of the tube to diminish. In a few weeks the uterus became movable, tenderness nearly disappeared, and the menstrual period following the operation was painless. Had he not checked the endometritis at this time, it was probable that it would have extended to the other tube. While admitting that one could not always be so fortunate under such circumstances, he made use of the case to illustrate the importance of properly treating the endometritis. His method of operating was to thoroughly cleause the vagina. dilate the uterns, and with a sharp curette remove the endometrium. After the first curetting the uterus is thoroughly irrigated with bichloride solution 1:3,000 and the uterus again curetted. This is followed by another irrigation and another curetting, and this process of alternate curetting and irrigation is continued until the endometrium has been thoroughly removed. The uterus is then firmly packed with iodoform gauze, the end of the strip being allowed to protrude from the cervix. The vagina is lightly packed with the same material. If the operation has been done as a preliminary to a total extirpation of the uterus, the field of operation is already aseptic; and, indeed, this measure is a good method of treatment preparatory to the removal of malignant growths. In cases where endometritis is associated with sufficient pelvic inflammatory disease to warrant a laparatomy, the greatest benefit will be derived from this preliminary curetting. Much of the distress following laparatomies is due to the neglect to treat the endometritis, and not to adhesions. Secondary pyo-salpinx may be abscribed to the same cause, as

well as the backache and descent of the uterus, which are the result of a failure to cure the endometritis, and the consequent great size and weight of the uterus. These could all be avoided by a preliminary curetting. In conclusion, he said that he believed curetting was about the only gynecological operation which the general practitioner should employ, but he thought that every physician should thoroughly understand how this instrument should be used. The dull curette was a useless instrument.

Dr. Boldt said the paper was a valuable contribution, because it called attention to the necessity of curetting in cases of suppurative pelvic disease; but he considered it dangerous to use the curette prior to abdominal section, as the traction which must necessarily be made upon the uterus is liable to excite a fresh attack of pelvic peritonitis and perhaps cause a rupture. He had had occasion, about five or six weeks after operating for pyo-salpinx, to curette the uterus on account of secondary salpingitis on the other side. Curetting followed by a *light* iodoform packing in the uterus resulted in great benefit to the patient. Curetting was a valuable and absolutely necessary measure, but it should be used after and not before abdominal section. He agreed with the author as to the value of this method of treatment as a preliminary to operations for carcinoma, fibroma, and similar conditions.

Dr. Wylie considered it would be dangerous in cases of pyo-salpinx, if there were signs of distention or if peritonitis were present. He coincided with the author in the opinion that disease of the endometrium generally precedes disease of the ovaries and tubes; but he could not indorse the statement that in cases of salpingo-ovaritis there is necessarily an endometritis requiring curetting, for in his opinion most of these cases are due to acute sepsis following labor and abortion, and the endometritis disappears with the sepsis. Where there are signs of distention he would even venture to introduce a sound into the uterus. Where subinvolution exists it had been his custom for years to endeavor to reduce its size by the use of boroglyceride before performing laparatomy, as, when the uterus is subinvoluted, it is so friable as to constitute a real danger in connection with a laparatomy. The method of treating endometritis described in the paper was in the right direction, but he had found that the gauze could only be satisfactorily employed where the uterus was enlarged and very patulous, while some of the most obstinate cases demanding treatment are those in which the gauze could only be used in this way with difficulty. He made use of a slightly curved hard-rubber stem having a deep slot in it for drainage. Quite recently he had been treating obstinate cases of chronic endometritis by dilating the uterus without ether, swabbing out the whole surface with pure carbolic acid during the menstrual period, and then irrigating with a strong solution of carbolic acid or with bichloride. He had relieved in this way some cases of long standing which had not yielded to draining and scraping. These chronic cases will frequently develop acute attacks of metritis, which simulate local peritonitis so closely that the best diagnosticians are often deceived. In these cases, after reducing the size of the uterus, it will be found that it is quite movable and that there is no disease of the ovaries and tubes.

Dr. Wylie asked if we were justified in using the curette in a case of gonorrheal endometritis. He had used it under these circumstances with great apparent success, and he be-

lieved had prevented the extension of the process.

Dr. Krcg said that, although he had had occasion frequently to dilate the uterus, both before and after laparatomy, he had never done it in the acute stage of pelvic inflammation. Although this was a rather bold departure in gynecology, he was inclined to believe that future experience might prove this new teaching to be wise and sound. At present he would not like to adopt this treatment unless he

could keep the patient under proper surveillance.

Dr. Brooks Wells said that Dr. S. Pozzi, of Paris, who is an enthusiastic advocate of the curette, speaks of this use of it almost in the words used in the paper just presented, and emphasizes the advantages of employing it after laparatomies where there was a suspicion of purulent disease, and before operations where one could be moderately certain that the tubes are not already distended with pus. The chief precaution necessary was to maintain absolute asepsis. Dr. Wells had peronally been obliged to make use of the curette several times during acute pelvic inflammation, on account of severe hemorrhage or during acute genorrheal inflammation, and with a prompt and most salutary effect upon the symptoms of sepsis, as well as upon the induration about the uterus.

Dr. A. P. Dudley said that for the past three years he had used the curette in his clinic in the acute stage of gonorrheal endometritis, and never hesitated to go into the uterus with pure carbolic acid. He had invariably stopped the disease. Where there was acute gonorrheal inflammation and he considered distention and inflammation of the vulvo-vaginal glands a pathognomonic sign of this condition, this treatment with the curette was very satisfactory and, he thought, added nothing to the risks. Where there was acute tenderness around the uterus and laparatomy was not demanded, he preferred to wait until the tenderness had diminished before resorting to the curette; but he had repeatedly used the curette

before laparatomies, washing out the uterus with a strong antiseptic solution, and packing it with iodoform gauze until some

expulsive pains were excited.

Dr. Currier did not think that the treatment advocated in the paper was quite safe for cases of pyo-salpinx. The comparative safety of the procedure depended almost entirely upon the character of the drainage. The profession had been very slow to appreciate the value of the uterine tampon in exciting uterine contraction, but he considered this form of tampon even more valuable than the curette.

Dr. Pryor, in closing the discussion, said that the best and most immediate results were obtained in cases of acute inflammation. In the case of a girl who had apparently perforated her uterus by introducing a sound for the purpose of producing an abortion, he found what was apparently a plastic peritonitis behind the uterus. As the consent to a laparatomy was withheld, curettement was performed, and with excellent result, both immediate and ultimate. The case was particularly interesting, as it was very acute.

As to the use of gauze, he would only say that, whether tube, gauze, or other material be employed, the uterus would dilate around it. In the case of the gauze the drainage not only occurs around an aseptic foreign body, but it is aided by

the capillary action of the gauze.

# TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

Wednesday, December 2d, 1891.

The President, J. WATT BLACK, M.D., in the Chair.

Specimens.—Dr. John Phillips: Retroflexed Fetus with Ectopic Viscera and Spinal Meningocele. Dr. Herman: (1) Rupture of the Uterus; (2) Acardia and Amorphous Fetus. Dr. Boxall: Placenta in a case of Early Abortion. Dr. McCann: Tubercular Salpingitis. Dr. Playfair: (1) A case of Superfetation; (2) Uterine Appendages removed on account of Fibro-myomata, the tubes distended with pus.

A CASE SHOWING THE BEHAVIOR OF THE PREGNANT UTERUS IN CHOREA.

A paper on this subject was read by Dr. Braxton Hicks at the November meeting, and was accidentally omitted in the report to the journals. The author related the history of a case under his own care. The patient was young and single, and had four months' amenorrhea. There was a swelling in the lower part of the abdomen reaching to the umbilicus; its shape was not symmetrical, an oval, hard lump being felt on its upper left side. The next day this swelling had disappeared, and on the other side, lower down, another hard lump was felt in what was evidently the uterus. This, after a day or two, subsided, and so on during the time of her residence in the hospital these similar variations of hardness were noticed in the uterus. She had albuminuria, and a systolic bruit over the heart. The chorea movements continued throughout pregnancy. Labor was normal and she made a good recovery. This condition of the uterus during pregnancy with chorea had not hitherto been observed.

ON THE RELATION BETWEEN BACKWARD DISPLACEMENT OF THE UTERUS AND STERILITY AND ABORTION.

A paper on this subject was read by Dr. G. Ernest Herman. He compared eases of backward displacement of the uterus with those in which this displacement was not present, and from an analysis of 3,641 consecutive cases in the London Hospital obstetric out-patient department concludes:

1. That backward displacement of the uterns has no appre-

ciable influence in the production of absolute sterility.

2. That backward displacement of the uterus is associated with a small amount of *relative* sterility.

3. That this association is chiefly in the later years of the

child-bearing period.

- 4. That backward displacement of the uterus has no appreciable influence in favoring the occurrence of habitual abortion.
- 5. That it is associated with a tendency to abortion, but that this tendency is not so great as that produced by some other causes.

6. That the tendency to abortion associated with backward displacement of the uterus is chiefly in the later years of the

child-bearing period.

The author does not think that mechanical conditions are sufficient to explain these facts. He regards the displacement, many of the symptoms associated with it, and the relative sterility and tendency to abortion, as alike manifestations of a condition of the general health.

Dr. Inglis Parsons related two cases of abortion due to retroversion and followed by pregnancy and delivery at full term after the uterus had been replaced and kept in position by a Hodge pessary.

Dr. Routh thought the paper useful, but that it contained

260 REVIEWS.

fallacies. He thought the author should have taken into account the age and the capability of the husband, bad habits, incompatibility, syphilis, and the short time the sperm was

sometimes allowed to remain in the vagina.

Dr. Graily Hewitt said that in one hundred and thirty-nine cases of retroflexion in married women observed by himself in private practice, he had found thirty-five, or twenty-five per cent, of them absolutely sterile, or one in four. In twenty-one cases out of one hundred and thirty-nine there had been one child only, and in twelve cases there had been two children, showing that backward displacements of the uterus had an influence on relative sterility. He thought the paper would favor the conclusion that changes in the uterine form are liable to interfere with the due performance of uterine functions.

Dr. Leith Napier pointed out some errors and defects in the tables. He referred to his own paper on abortion in volume xxxii. of the Transactions. In his cases there was an average fertility of 10.383. The number of aborting women in whom uterine displacement was an evident clinical condition was 9.09 per cent. He had shown that syphilis was not so important a factor in abortion, and now it was shown that

retrodisplacement was similarly not so important.

Dr. Walter Griffith asked if the examination of the uterus in all these cases had been made before the first preg-

nancy or after several.

Dr. Herman, in reply, said that the sequence of events related by Dr. Inglis Parsons might be merely coincidence. He thought the fallacies mentioned by Dr. Routh applied to both cases with and those without displacements, and so his own argument was not invalidated. He thought Dr. Hewitt's reputation had led many to consult him because of sterility, and therefore his figures showed a large percentage of sterility.

# REVIEWS.

Pathology and Therapeutics of the Diseases of Women. By Dr. August Martin, Instructor in Gynecology in the University of Berlin. Translated from the second revised and enlarged edition, with notes and appendix, by Dr. Ernest W. Cushing. Second American Edition. E. W. Cushing, M.D., Boston, 1891. Pp. xxxiv., 681.

The chief value of this work, considering it from the standpoint of the American practitioner, lies in the fact that the author's methods, both the surgical and non-surgical, differ

261

markedly from those current here. The school of gynecology founded by James Mariou Sims, the influential teaching of his co-workers and his followers, have established and rendered matters of routine with us technical procedures at variance with those taught and practised by gynecologists of the German school. The Sims' position and speculum, the silver wire for suture, the scissors for plastic work, are, with here and there a notable exception, customary adjuncts to American gynecology, whilst the dorsal position, the Simon speculum, silk and animal suture, the knife for denuding, hold the front rank in German gynecology. Careful study of Martin's methods may carry the conviction that we may improve on our work here by leaving certain of the ruts into which, from force of strong example, we have insensibly fallen. Indeed, many American gynecologists have already, as the result of personal contact with German methods, adopted the latter. This is a healthy sign. It means the broadening of the art—gynecology—in the land where the foundations were laid.

Lengthy exposition of a treatise from the pen of a man so well and withal so favorably known as August Martin appears unnecessary. The fact that a second American edition is called for in a relatively short space of time after the appearance of the first in the Annals of Gynecology, is ample proof of the recognition which the work has already secured. This second edition has been brought in accord with recent advances by both the author and editor. The latter has interpolated here and there a large number of plates from the Annals, and in an appendix these plates find their explanation.

In this age of rapid multiplication of special treatises, many of them written short of the qualifications which experience yields, it is well that the profession should possess a work, such as the one under review, to which reference may be made with the certainty of finding more gold than dross. The opinions expressed are founded on an exceptionally large experience, and the conclusions reached may in general be deemed trustworthy guides. How general this view is finds testimony in the fact that Martin's work has also been translated into French, Italian, Russian, and Spanish.

Human Monstrosities. By Barton Cook Hirst, M.D., Professor of Obstetrics in the University of Pennsylvania, and George A. Piersol, M.D., Professor of Histology and Embryology in the University of Pennsylvania, Philadelphia. In four parts. Part I. Illustrated with seven photogravure plates and eighteen woodcuts. Lea Brothers & Co., Philadelphia, 1891.

This is the first work in English which undertakes to deal

262 REVIEWS.

systematically and thoroughly with a subject of great interest and importance, and to bring together in a concise and convenient form the scattered and fragmentary literature of teratology. The reputation of its distinguished authors, and the promise of the part before us, are a sufficient guarantee that this will be most perfectly accomplished.

The thirty-nine full-page plates will be photographic reproductions from the rich collection of monstrosities from the Wistar and Horner Museum of the University of Pennsyl-

The work will be in four parts, and will contain about one hundred and fifty pages of text. The present Édition de Luxe is issued as a folio of thirteen by seventeen inches, and is printed on thick paper with wide margins and clear type. A book of this size, while very beautiful, is somewhat cumbersome and unwieldy, so that, for ease of reference and general comfort, we should like to see a second edition with a smaller page and bound as a single volume.

A HANDBOOK OF OBSTETRICAL NURSING FOR NURSES, STU-DENTS, AND MOTHERS. Comprising the Course of Instruction in Obstetrical Nursing given to the pupils of the Training School for Nurses connected with the Woman's Hospital of Philadelphia. By Anna M. Fullerton, M.D., Demonstrator of Obstetrics in the Woman's Medical College of Pennsylvania; Physician-in-Charge and Obstetrician and Gynecologist to the Woman's Hospital of Philadelphia, and Superintendent of the Nurse Training School of the Woman's Hospital of Philadelphia. Second edition, revised. Pp. 214, 33 Illustrations. P. Blakiston, Son & Co., Philadelphia, 1891.

This is a well-written and carefully-elaborated little work, which tells what a nurse or mother should know of this important subject, and yet does not, as so many of its kind do, encroach upon subjects properly belonging to the physician. The principal change in the second edition has been in extending and bringing up to date the chapter on the care of the new-born infant.

The author believes in the value of cleanliness, antisepsis, and eternal vigilance, and her thorough exposition of the many little details of scientific nursing makes her work well

worth reading by the physician as well as the nurse.

### ABSTRACTS.

1. Bumm, E. (Würzburg): A Histological Examination of Puerperal Endometritis' (Archiv für Gynäkologie, Band xl., 1891).—If we follow the path which the infectious germs have taken in cases of puerperal fever where there is a general infection and death results, we almost invariably find the seat of origin of these germs to be the endometrium. Vidal was able to observe the seat of entrance of the germs and the course they pursued in twelve cases of fatal pnerperal sepsis, and in all twelve they started from the endometrium, so that he designates it the point of origin for infection. B. obtained the same results in five fatal eases.

The way in which the infectious germs are carried from the endometrium into the system has long been known and understood. They may enter in two ways—one, through the renows thrombi: this carries them directly into the circula-

tion; the other, through the lymph channels.

In order to successfully treat cases of puerperal fever, it therefore becomes necessary to devote our attention to the endometrium; and to do this we must understand how the germs enter and develop in the endometrium.

Puerperal endometritis has been variously designated as croupous, diphtheritie, putrid, etc. It seems better to classify it as done by Kehrer, namely, putrid and septic endo-

metritis.

1. Putrid Endometritis.—Under this heading we understand those forms of puerperal endometritis (it is immaterial whether portions of the ovum are retained or not) in which saprophytic micro-organisms cause a change in the decidua, but in which septic germs do not develop. This change may only affect the uppermost layer of the decidua, which is expelled as the new mucous membrane forms, and contains no germs, nor is it decomposed; but it may also affect the deeper layers. The evidences of these changes are made manifest by the fever and other symptoms of intoxication due to decomposition. The causes of this decomposition are always a combination of bacilli and cocci.

Judging from the clinical symptoms, eases of putrid endometritis are not uncommon. This is, however, not substan-

<sup>&</sup>lt;sup>1</sup> See also page 1267, vol. xxiv., of this Journal.

tiated by a careful bacteriological examination. In the majority of cases of abortions and labors which result in an endometritis, we find, besides these germs of decomposition, septic micro-organisms, especially streptococci, and sometimes pyogenic staphylococci, so that the cases are really a combination of putrid and septic endometritis. The author observed eleven cases of apparent putrid endometritis, but in only three cases were there no pathogenic germs.

A histological examination in a case of putrid endometritis

reveals the following:

The superficial layer of the decidua is filled with microorganisms. We observe all forms of rods, long threads, and cocci of all sizes. Fungi often grow in colonies entirely covering the base of the decidua. As far as the fungi spread, and even 0.1 millimetre beyond, the tissues are in a state of necrosis, glassy and cloudy. The granules cannot be stained. Beyond this zone a zone of cellular infiltration forms. Small round cells are to be seen, which look like colorless blood corpuscles and form a layer 0.3 to 0.5 millimetre thick and lie very close to each other. The cellular infiltration ceases at the muscularis. The innermost fibres are separated in places by an accumulation of cells, but this can only be seen for a short distance. The micro-organisms cannot be seen in the granulation layer.

The round-celled infiltration must be looked upon as a reaction of the organism which sets up a granular wall to prevent the entrance of the germs and thus separates the dead

from the healthy tissue.

2. Septic Endometritis.—Under this heading are included those cases of puerperal endometritis in which the septic microbes have developed upon the decidua. Macroscopically the infected membrane may, in mild cases, show nothing in particular, or its superficial layer may have a yellowish color and be covered with pus. In severe cases we may observe but little with the naked eye, and yet under the microscope we find the endometrium filled with streptococci. Very frequently there is a croupous deposit, or the membrane is changed into a dirty, smeary-looking mass. In these cases we find the germs of decomposition. From an etiological standpoint all these cases of purulent, croupous, and gangrenous endometritis are only varieties of septic endometritis.

Streptococci are most frequently found in septic endometritis. This was demonstrated by Czerniewski as being the case in the obstetrical clinics, and the same is true in private practice. Occasionally we may find pyogenic staphylococci, especially the aureus, besides the streptococci. B. only observed staphylococci alone in two cases. The cases were mild ones, and this coincides with the observations of Fehling.

Brieger demonstrated that the staphylococcus aureus may cause a fatal general infection. Czerniewski found streptococci without any other organisms in thirty-five cases of endometritis, all ending in recovery. Thirteen cases were observed in which there were other bacteria. The author was able to find the streptococci alone in five cases (three of these ending fatally). In twelve cases, besides the streptococci, there were observed upon the plate cultures staphylococci and other germs. In eight cases the number of germs of decomposition were very great (mixed form of septie and putrid endometritis). Two of these cases terminated fatally, the streptococci entering the venous thrombi at the placental site and a pyemia resulting.

(a) Localized Septic Endometritis.—If we examine these cases histologically—that is, those cases of septic endometritis where the infection does not extend beyond the endometrium—we observe a picture similar to that in cases of putrid endo-

metritis.

The bacteria do not enter the granulation layer; it acts as a boundary line for the streptococci, the same as it did for the germs of decomposition. The fever observed in these cases must be attributed to a resorption of the chemical products which takes place in the necrotic layer, due to the for-

mation of strepto- and staphylococci.

(b) Septic Endometritis followed by General Infection.— Five cases were examined; in three the infection entered through the lymph channels, in two through the blood vessels. One of the cases of lymphatic infection ended fatally on the fourth day, showing symptoms of septic streptococcus peritonitis. Macroscopically we observe but little. The wall of the uterus appears normal. The endometrium is covered with a grayish-white coating. Streptococci in large numbers may be cultivated from the blood, spleen, liver, kid-

nevs, and endometrium.

A microscopical examination of a section shows the following: The mucous membrane, which only shows the remains of the spongy layer, is covered with streptococci (pure cultures) and is necrotic. The cocci are to be seen in some places in thin layers, in other places as broad, large colonies. We observe here and there indications of the presence of the reaction zone. The accumulation of round cells is entirely absent; the necrotic zone runs into the neighboring tissues without there being any sharply defined boundary. In these situations the streptococci grow and extend into and through the muscularis. The muscular tissue is opaque in those situations where there is a large accumulation of cocci. About this we observe a small collection of round cells. In some places the lymph spaces are filled with cocci. At the placen-

tal site the venous spaces are closed, contain no thrombi or cocci; only a few small venous branches near the surface contain blood clots, and in these there are a few cocci.

If we examine a number of sections, we occasionally see where the infection extends from the surface into the lymph spaces. The condition of the infected lymph channels varies. Some of the finer spaces show a delicate fungous border on their walls: the rest is empty or filled with granular material. We do not observe any reaction in the vicinity. In other situations we find the lymph spaces filled with the fungus and we see the cocci in the surrounding tissues. In other places we see the lymph channels filled with cocci, and from here the fungi spread beyond the necrotic muscular layer. About this we see a reactive accumulation of cells. The inflammation may fluidify the entire infected mass and change it into an abscess cavity.

Taking the subject up generally, we find that the superficial layer of the endometrium where the germs were first formed has become necrotic. In cases of local septic endometritis the necrotic germinal zone is separated from the healthy tissues by a wall of round cells. The same exists in the thrombotic form. The germs do not enter excepting at the placental site, where they enter the venous thrombi. The granular wall is not well marked in the lymphatic form. It is almost entirely absent in the severe septic forms where the germs penetrate the entire uterine wall. The germ which causes the disease is always the same, namely, the strepto-

coccus septicus.

How can we explain the fact that sometimes the affection remains a local one, then again it passes through the lymph

channels or again through the venous channels?

The bacteria must explain this. They are the agents which produce these various forms of disease. Their number is not important. The danger depends upon the virulence of the germs. This fact was emphasized by Vidal and Chantemesse. In local septic infection and in the thrombotic form the germs are only mildly virulent and are made harmless by the rapid reaction that takes place in the organism. The extremely virulent germs penetrate the walls of the uterus and there is no local reaction. The germs of the lymphatic form, as regards virulence, are to be placed between the extremely virulent or internal puerperal erysipelatous form and the mild local or thrombotic forms.

It is well known that the endometritis is always mild after cases of premature labor. This is explained by the slight development of the lymphatic and venous channels. On the other hand, we often observe marked infection after a twin

pregnancy, where the lymphatics are developed in large numbers.

- 2. Matlakowski: A New Method of Hysteropexie (Der Frauenarzt, Hft. 9, 1891).—M. recommends the following method, which he performed with success in three cases: A short incision is made in the linea alba one to two centimetres above the symplysis. The hand is introduced into the abdomen and the uterus raised. The round ligaments are then exposed on each side. Their peripheral portions are ligated and they are cut at about the distance of six centimetres from the uterus and the central end is grasped with a pair of forceps. The peritoneum, fascia, and recti muscles are perforated one to two centimetres to the side of the first incision, and the central portion of the ligaments drawn through these openings, the uterus being held in position; they are fastened to the anterior abdominal wall under the skin by a ligature. The primary incision is then closed and the operation is thus completed.

  L. S. R.
- 3. Börner, E.: Etiology and Therapy of Weak Labor Pains in Old Primipare (Der Frauenarzt, Hft. 9, 1891).—
  The weak labor pains so often observed in old primipare the author attributes to a beginning retrograde metamorphosis of the entire generative system. Absolute absence of pains in old primipare is to be considered the first indication of the approaching elimacteric. The uterus of an old primipara has not the activity or physiological strength of one that has borne children. This the author considers the cause of tardy labors in these cases, and the reason why there is often so much risk to both mother and child, requiring careful watching on the part of the physician, and often the use of forceps, turning, sometimes even perforation, or ineisions into the portio vaginalis in cases where the os does not dilate sufficiently.

  L. S. R.
- 4. OBERTH, J.: OBSERVATIONS IN REFERENCE TO THE USE OF ICHTHYOL IN FEMALE DISEASES (Der Frauenarzt, Hft. 9, 1891).—Observations made by O. do not agree with the excellent results reported by Freund. O. reports forty-two eases treated with ichthyol. Of these thirty-five were eases of chronic inflammatory swelling of the appendages, and four parametric exudations. His conclusions were that ichthyol does not have a specific effect upon inflammations about the uterus, nor does it cause resorption of the products of inflammation. He did observe, however, that it quickly diminished the amount of pain. His favorite manner of using the drug is as a five to ten per cent ichthyol-glycerin on tampons.

[I have used this drug in a number of cases of endometritis, endocervicitis, and exudations. A five to ten per cent ichthyol-glycerin solution is applied directly to the affected surface. Tampons soaked in the same solution are then introduced into the vagina and kept in situ twenty-four hours. Besides this the abdomen directly over the symphysis is rubbed twice daily with a fifty-per-cent ointment of ichthyol. In the cases observed thus far the results have not been very satisfactory.]

5. Herff, Otto v.: Treatment of Vesico-uterine Fistulæ (Zeitschrift für Geburt. und Gynäkol., Band xxii., Hft. 1, 1891).—Of all the various methods devised for the cure of this affection, that of direct closure by suture through the cervical canal, making a funnel-shaped paring operation, deserves the first place. When the cervix has been previously lacerated the fistula is much more accessible. When no laceration has taken place and the fistula is one to two centimetres above the os externum, it becomes necessary to perform a trachelotomy before doing the fistula operation. We obtain the most space by slitting up the cervix in the manner first recommended by Jobert, but first successfully practised by Kaltenbach.

When the fistula is situated laterally, Sänger, after slitting up one side of the cervix, incises the opposite side in such a manner as to include the fistula, and then sews up the entire wound as in a trachelorrhaphy. Neugebauer, Sr., operates by slitting the anterior lip and including the fistula in the centre of the wound, then sewing up as in Emmet's operation.

A number of cases, however, are not amenable to these methods. Causes of failure to obtain union are high location of the fistula, making it almost inaccessible, tendency of the cervical tissue to tear, immobility of the uterus due to paraand perimetritis, tension in the tissues about the fistula due to cicatrices, cicatricial contractions in the vagina, and, finally, large size of the fistulous opening. The method of operating in such cases must be by separating the bladder from its attachments and closing the wound in the bladder by itself, as first recommended and successfully performed by Follet, who operated as follows: The cervix was strongly drawn downward and the finger introduced through the previously dilated nrethra into the bladder. The vesical wall was then detached from the vaginal vault until the fistula could be drawn down almost to the vulva and sewed up with four Lembert stitches. Iodoform-gauze dressing in vagina and retention catheter. An objection to the operation is the probable incontinence resulting from dilatation of the urethra.

Wölfler operated in a somewhat similar manner, but did not introduce the finger into the bladder, drawing it down from the vaginal side. Neither operator attempted to sew up the defect in the vagina, but left it to granulate. Champneys operated in a manner not unlike Wölfler. He made a transverse incision through the anterior vaginal tissue and separated the bladder from the cervix. Then he sewed up both fistulous openings with buried sutures and closed the vaginal wound. He prefers the use of silk or chromatized catgut to silver for his buried sutures. The objections to this plan of operating are the possibility of having a urinary infiltration take place in the pelvic connective tissue, because it may not always be possible to prevent a pocketing of the tissues; and if the wound in the vagina does not heal another vesico-uterine or even a vesico-vaginal fistula may form. The tissues may be so thin that a necrosis follows as a result of separating the bladder wall, and the peritoneum may be so close to the fistula as to be injured in the manipulation.

H. overcame these dangers, in a case operated upon by him, by including a thin strip of cervical tissue when stripping off the bladder. This has also the advantage of strengthening the bladder wall. His case made a perfect recovery. Deep silver sutures were employed and superficial ones of catgut. To prove that the fistula is completely healed he recommends the injecting of a pyoktanin solution into the bladder, rather than the use of milk, as it acts as a disinfectant and its dark color makes it very advantageous. He believes that this method will make the one recommended by Trendelenburg—namely, to operate by opening the bladder through the abdomen—unnecessary in many cases.

L. S. R.

6. Kleinwachter: Prolapse of the Female Urethra (Zeitschrift für Geburt. und Gynäkol., Band. xxii., Hft. 1, 1891).—The affection has always been considered a rare one, but the author, after observing two cases, investigated the literature of the subject and was able to collect about one hundred cases. This would go to show that the affection is not so very rare, but that no particular attention has been paid to it; and this is in great part due to the fact that most of the cases occur in children. The prolapse may be as large as a bean, a walnut, or even a pigeon's egg; in fact, Lawson Tait and Baehr observed cases as large as a hen's egg. The prolapsed tissue is hyperemic, edematous; pale-red, dark-red, or bluish-red in color; is eroded, suppurating; slightly or very painful, depending on its size, length of time that it has existed, whether coming on suddenly or gradually, etc. The prolapse is seldom a partial one, but is usually complete. Of thirty-four cases it was complete in twenty-four and partial in ten.

The etiology of the affection is not well known. It is due to those causes which dilate the urethra, those which cause affections of the bladder, and constitutional diseases.

Calculi and tumors of the urethra are the most common causes of prolapse. Age appears to be an important factor. Of the cases collected, over one-half occurred in children.

The symptoms are pain, difficulty in prination, and hemorrhage. It rarely happens that the prolapse disappears of

itself. If not treated it usually grows larger.

The diagnosis is easy. It may sometimes be difficult to find the meatus. We must differentiate from polyp, polypoid angioma, urethral caruncle, varicosities, and cyst of the urethra.

Treatment.—First attempt to cure by replacing the prolapse. This method will, however, only prove successful in very recent cases and those which have developed suddenly.

Solingen and Ingerslev, who failed in retaining the prolapse, attempted to perform a cure by applying a compress after the prolapse had been pushed back. Solingen succeeded in his case, but Ingerslev, after trying several kinds of compres-

sion, was compelled to excise the prolapse.

Small prolapses may be cured by reposition and the application of caustics or the hot iron. When large this method fails and the prolapse must be removed by scissors or knife. Objections to the operation are hemorrhage (which, however, can be readily controlled by a stitch) and subsequent stenosis. In some cases it is advisable first to perform an Emmet's buttonhole operation. The author considers it preferable to slit up the nrethra, find where the prolapse starts from, remove it, sew up the edges, and then sew up the slit again.

L. S. R.

7. Prochownick, L., and Spaeth, F.: The Action of the Constant Current upon the Uterus (Zeitschrift für Geburt. und Gynäkol., Band xxii., Heft 1, 1891).—Experiments were made upon fourteen uteri, seven living, in cases in which total extirpation of the uterus was about to be performed, and seven upon uteri removed from the cadaver. Platinum, carbon, and copper sounds were used, and over the abdomen the Apostoli electrode was placed. Upon the uteri which had been removed a plate electrode, made of tin and covered with cotton, was applied over the fundus. The strength of the current varied from seventy-five to three hundred milliampères, and the duration six to ten minutes on the living and ten to fifteen on the dead. In all of the cases generation of gas was manifested, as evinced by a distinct sound and the exit of foamy fluid from the os externum. When the anode was placed intra-uterine a distinct odor of chlorine became evident.

The action of the constant current was always found to be that of a caustic, varying in quantity according to the strength of the current and the length of time applied; varying also in quality according to whether the cathode or anode was applied, and also depending on the kind of sound employed. The action of the anode is like that of an acid; of the cathode, that of an alkali. The platinum sound always caused the most marked effect when acting as the anode, then came the carbon, while the copper sound produced the least effect. The same was observed when these sounds were made the cathodes. The action upon both the living and dead uteri was always a destruction of the superficial layer and the production of coagulation of blood and lymph in the tissues more deeply situated. They summarize the results of their experiments somewhat as follows:

1. The action of the galvanic current when applied intra-

uterine causes a coagulation necrosis.

2. The intensity and duration being the same, the anode

acts more strongly than the cathode.

- 3. The final effect of frequent anode applications is cicatricial formation in the mucous membrane of the uterus and disappearance of the epithelial elements.

  L. S. R.
- 8. Mynlieff, A.: Therapy in Albuminuria and Nephri-TIS OF PREGNANCY (Der Frauenarzt, Heft 8, 1891).—Prophylaxis aids us but little in preventing this unfortunate occurrence. We can recommend frequent warm baths, the wearing of woollen underwear, and prevention of all forms of excitement. If a chronic nephritis exists, the danger to the mother becomes so great—statistics show a mortality of eightyfour per cent—that the induction of premature labor is demanded. If an occasional albuminuria occurs during pregnancy, no treatment need be adopted besides unusual care and vigilance; but where a nephritis exists patient should be placed upon a strict milk diet. This often effects wonders; the quantity of urine becomes increased, the albumin disappears, and eclampsia does not occur. If symptoms arise, warm baths and subcutaneous injections of pilocarpine do good service. Gramm and Schröder recommend the employment of the salicylate of the obromine (diuretin). M. believes that if a nephritis occurs in the early months of pregnancy, in a previously healthy woman, the induction of premature labor is indicated. When, however, it appears in the sixth or seventh month, then interference with the gestation is contra-indicated, except when very serious symptoms develop, such as hydrops, dyspnea, etc.
- 9. Monti: A Few Observations in Regard to the Examination of Human Milk (Arch. f. Kinderheilk., Band

xiii., IIft. 1 and 2, 1891).—M., after making examinations for over ten years, makes deductions in reference to human milk as follows: 1. Milk having a specific gravity of from 1.030 to 1.035 and containing three to five per cent of fat, and in which only small variations occur, is to be considered good and nutritions for the child. 2. Menstruation produces no effect upon the specific gravity or the amount of fat. 3. Where the specific gravity is high and the percentage of fat small the milk is not good. 4. A high percentage of fat may be temporary, as a result of some pathological condition of the woman, e.g., mastitis. 5. When a pathological condition is present, a rapid or gradual diminution in the quantity of milk will be observed.

L. S. R.

- 10. Eröss, J.: Comparisons between the Antipyretic Ef-FECTS OF ANTIPYRINE, QUININE, AND WARM BATHS IN NEWBORN CHILDREN WITH FEVER (Jahrb. f. Kinderheilk., Band. xxxii.).—E. compared the effects of these three antipyretic methods in cases in which the temperature went above 39° C., and came to the following conclusions: 1. Antipyrine in doses of from 0.05 to 0.15 (gr.  $\frac{8}{1.0}$  to  $2\frac{1}{3}$ ) is certain in its action, and reduces the temperature within an hour in cases of non-septic febrile attacks in the new-born. It often produces a marked diuretic action. 2. Quinine in doses of 0.1 (gr.  $1\frac{1}{2}$ ) acts similar to antipyrine, but has even less effect on septic fever than has antipyrine. It acts slower than the antipyrine, and the maximum fall of temperature does not occur within five hours, but its action lasts somewhat longer than does that of antipyrine. 3. Baths having a temperature of about 28° C. were given the children, duration ten minutes. This was immediately followed by a fall of temperature of from 1.8° to 4.3°, and even at the end of an hour and a half the temperature continued to fall. In septic cases the duration of the bath should be longer than in non-septic. The baths also overcame the restlessness and insomnia. L. S. R.
- 11. OLSHAUSEN, R.: PUERPERAL PSYCHOSES (Zeitschrift für Geburt. und Gynäk., Band xxi., Hft. 2, 1891).—There can be but little doubt that all things which have a debilitating effect upon the general system, such as tardy labor, hemorrhage, debility due to loss of weight during the puerperium, act as predisposing factors in causing these psychoses. Furthermore, many cases can be directly attributed to infectious processes in the puerperium. Those conditions which predispose to it in particular are puerperal pyemia and cases of ulcerative endocarditis, whereas the so-called septicemia cases (lymphatic form with peritonitis) lead to it much less often. Pyemic puerperal fevers, when associated with psy-

choses, cause meningitis and encephalitis, and particularly the formation of capillary emboli, these being the anatomical

causes of the psychosis.

Another and essentially different class of cases are those following eclampsia. This form does not seem to be well known nor does it occur very often. Of two hundred cases of eclampsia occurring in the clinic in Berlin, only eleven showed a psychosis. It was noticed in these eleven cases that in most the eclamptic attack was of a long duration, and this must be looked upon as an etiological factor in the production of the psychosis. The attack usually manifested itself on the third day after delivery. In the majority of cases one day elapsed between the time of the eclamptic attack and the appearance of the maniacal condition. The psychosis was always associated with hallucinations, mostly in the form of disturbances in hearing. Patients become restless and desire to leave their bed. In two cases melancholia was the form developed. The course of the psychosis is extremely rapid and a cure is quickly established. As to symptomatology, it may be noted that in a number of cases the pulse is very rapid and temperature high without the existence of any local affection. In treating the cases chloral was found to act much better than opium, two to four grammes per rectum being given. L. s. R.

12. Schuhl: Repeated Abortions and their Prevention (Annales de Gyn., May, June, and July, 1891).—Repeated abortions in the same woman are usually traceable to some one cause; more rarely there is a different cause for each one. The etiology may be considered under three heads: I. Causes traceable to the mother. II. Causes traceable to the father. III. Causes traceable to the ovum.

I. Causes traceable to the Mother.—These may be general or local. Among the first we have *Habit*. Opinions differ widely upon this point, some authorities believing that every abortion predisposes to another; some claiming that this is impossible, since the uterus undergoes complete change after delivery, and the new fibres found cannot have acquired a habit. Usually some other cause will be revealed by minute

research.

Temperament.—Little stress is laid upon this cause at the present day, except as it predisposes to diseases which may influence pregnancy. For instance, a plethoric constitution predisposes a patient to congestive troubles and to uterine hemorrhage. A lymphatic temperament is often accompanied by leucorrhea, laxness of the cervix, atony of the genital organs. A nervous temperament predisposes to uterine contractions upon slight stimulus, and by the action exerted upon vaso-dilator nerves congestion is easily produced.

A Delicate Constitution may predispose to abortion, as a high activity of the whole organism is needed for the proper nourishment of the fetus.

Age.—At the two extremes of the child-bearing age abortions are the most frequent. An incompletely developed uterus is unable to keep pace with the growth of the ovum, while a certain muscular rigidity in later life interferes with its development. Rouvier found that seventy-nine women in Syria who were married before their sixteenth year had seventy-six abortions out of three hundred and sixteen pregnancies, which gives a percentage of twenty-four.

Heredity.—Opinions differ as to the possibility of trans-

mitting a habit of abortion.

Consanguineous Marriages.—Their influence upon abortions has been exaggerated, and, according to Jourdes, is usually

due to some family taint.

Obesity has an influence, due, according to Fournel, to the slight vitality of the fetus, the maternal organism absorbing the nourishment at its expense; to imperfect development of the uterus because of its imperfect nutrition, and to the pressure of an epiploön loaded with fat; to the circulatory and respiratory troubles of the mother, causing stagnation of the blood in the uterine sinuses, and surplus of carbonic acid—conditions favoring hemorrhage, fetal asphyxis, and uterine contractions.

Altitude.—This has not been satisfactorily proved to be a cause of abortion, although Paganel believes that the diminution of atmospheric pressure favors congestion of every organ, and especially the uterus, and Devilliers holds that rapid exercise taken up and down hill might have a traumatic influence.

Climate has but slight effect upon gestation, although European women transplanted to warm climates easily miscarry, doubtless from profound anemia caused by the change.

Insufficient Alimentation.—It will readily be understood

how this condition affects pregnancy.

Prolonged Inaction.—In lymphatic and anemic subjects this may aggravate the general ill health, and thus cause the accident for which it is often prescribed as a preventive.

Accidental Causes: Trauma.—These may cause death of the fetus, congestion and utero-placental hemorrhage, or uterine contraction. Strain produced by arduous occupations comes under this head.

Mental Emotion varies in its effect upon pregnancy. At times and in some cases great mental shock or strain has no effect upon gestation, and again abortion is produced. It is probable that in the latter case a predisposition to miscarriage already exists. The action which produces death of the fetus is not to be explained, but that uterine contractions should be caused by mental emotion it is easy to understand, the contractions being to a certain extent under the influence of the nervous system. As to uterine hemorrhages, Tarnier and Budin explain them by the influence of the nervous system upon the circulatory apparatus.

Poisoning by Lead, Mercury, Carbon Disulphide, Tobacco, and Alcohol have all been considered to produce abortion. The effect of mercury is still a disputed point, nor has that

of tobacco been satisfactorily proved.

Syphilis.—Maternal syphilis is undoubtedly the most frequent cause of repeated abortion. The effect upon pregnancy bears little relation to the severity of the disease, some of the lightest cases frequently causing the accident; but the same cannot be said of the stage of the disease, which has a decided influence. "Time," says Fournier, "attenuates the action of syphilis, and may end by annihilating it." This explains why, in many women, abortions occur each time at a later period in pregnancy, and eventually term is reached and a living child born. The first three years after the contraction of syphilis are the ones to be feared, most especially the first. According to Kassowitz the effect of the contagion lasts from five to eight years, sometimes twelve. Fournier has seen the hereditary influence produced sixteen years after the first infection, and Henoch twenty years after. Specific treatment diminishes and even cures the tendency to abortion.

The direct cause of abortion is usually death of the fetus. Grave lesions of the fetal organs, as the lung or liver, peritoneum, etc., may be produced, or the nutritive disorders causing an alteration of the mother's blood may cause the death of the child. The placenta may become diseased, and the vessels of the umbilical cord may be diminished in calibre.

Sometimes hydramnios, rather than death of the fetus, may

bring on the abortion.

Scrofula has been adduced as a predisposing cause.

Intermittent Fever causes premature labor rather than abortion.

Derangements of the Nervous System.—Chorea sometimes,

but rarely, affects pregnancy.

Skin Discuses.—Pruritus, whether vulvar or general, is one of the rarest causes of abortion, yet it occasionally pro-

duces it as a result of the nervous excitement induced.

Disease of the Urinary Apparatus: Albuminuria.—When this exists abortions are of frequent occurrence. Braun considers the percentage as high as eighty. Krzyminsky, Barker, and Tarnier report a number of cases. The death of the fetus

is usually the initial phenomenon of the abortion, due, according to Bartels, to general anemia of the mother, which interferes with the nourishment of the child. Barnes considers it due to uremic poisoning; and Rouhaut has shown that lesions of the placenta may be the cause.

When the child is living at the beginning of the abortion, hemorrhage is usually the first symptom. Sometimes albuminuria seems to have a direct action upon the uterine con-

tractions.

Gravel, by causing violent and repeated vomiting, may produce abortion.

Diabetes may occasion it.

Digestive Disorders.—Constipation is admitted by the best authorities to be the occasional cause of abortion, while Guillemot claims that it is the most usual one. Not only is this due to frequent straining efforts at stool, but to the production, by the accumulation of fecal matter, of venous stasis and congestion, which favor uterine contraction. Distended intestines, moreover, exert direct pressure upon the uterus.

Diarrhea and Intestinal Worms have been included in the

etiology of the trouble under consideration.

Circulatory Disorders.—Patients suffering from heart disease frequently miscarry. Porak found the percentage to be forty-one per cent. The cardiac lesion may or may not give symptoms. An excess of carbonic acid in the blood may produce asphyxia of the fetus, uterine contractions; or effusions of blood in the tissues of the placenta may result in its detachment. In cases where the cardiac symptoms are but slightly marked, defective nutrition of the mother probably interferes with the development of the fetus. Mitral insufficiency, more than any other lesion, has been found to predispose to abortion.

Varicose Veins of the Extremities in themselves cannot produce abortion, but some authorities claim that the compression used as a means of relief may cause uterine hemor-

rhage.

Hemorrhoids exceptionally have a bad effect upon pregnancy by causing uterine irritation, or because they lead to a congested condition of the internal genital organs.

Chloranemia exercises a deleterious effect upon the whole

organism, and consequently upon the uterus.

Hemophilia would theoretically predispose to abortion.

Respiratory Apparatus.—Pulmonary tuberculosis is an occasional cause; but rarely of repeated abortions, since the disease is usually accelerated by pregnancy.

Local Causes.—Too frequent intercourse, without any

doubt, is a cause of abortion.

Menstrual Molimen.—A more or less intense congestion of

the uterus certainly exists, during pregnancy, at the period corresponding to the menstrual epoch. It usually has no bad effect, still repeated abortions have been known to occur at this time, and that with too great frequency to be attributed to chance. The rôle played by the molimen is only secondary, however, and must be associated with a predisposition to abortion or with functional troubles dependent upon menstruation, as dysmenorrhea, uterine displacements, congestions, etc.

Uterine Rigidity and Uterine Atony, if existing in a pathological degree, may produce abortion. Abnormal Uterine Irritability, without any apparent lesion or nervous trouble,

has been known to bring about the same result.

Malformations of the Uterus.—Uterus Unicornis, while sometimes permitting of a delivery at term, may also produce abortion. In cases of double uteri pregnancy usually goes on to term, but there are exceptions to the rule. Subinvolution

is a cause, as is

Chronic Endometritis, whether mucous or parenchymatous. Development of the organ is interfered with, and, moreover, endometritis gravidarum is often induced, and frequent hemorrhages may cause the death of the fetus or provoke uterine contractions. More rarely these contractions occur primarily.

Hydrorrhea may also be a consequence of endometritis, and if the fluid be suddenly expelled in large quantity the consequent diminution in size of the uterus might result in detach-

ment of the ovum or in uterine contraction.

Fibromata, by acting as foreign bodies, by causing displacements of the uterus, by interfering with its normal development, and by frequent hemorrhage, may cause abortion.

Cancer, however, is rarely a cause of repeated abortion, the course of the disease being more rapid than in the case of

fibromata.

Laxity of the Cervix, ulcerations, lacerations, may cause abortion. In the last case, as a consequence of ectropium, the mucous membrane of the cervix readily inflames and the lesion even extends into the body of the uterus. Olshausen holds that when the lips of the cervix are widely open abortion is due to premature exposure of the lower portion of the ovum, which may cause uterine contractions or lead to injury of the membranes.

Howitz and Müller believe that the laceration has only an indirect influence; Thomas lays great stress upon irritation of

the nerves of the cervical mucous membrane.

Displacements.—Retrodeviations. Martin, out of fortyone cases of retroflexion, had fifteen abortions; May, out of one hundred and fifty, thirty-three abortions; Howitz, thirtyseven out of fifty-two; Charles, forty-seven out of one hundred and thirty-eight. Olshausen admits that retroflexion is an habitual cause, and Phillips is of the same opinion. The retroflexed uterus becoming incarcerated in the pelvis is often subjected to direct pressure, the circulation is impeded, and congestions and hemorrhages of the membranes and placenta follow. Distention of the bladder and rectum, the result of the incarceration, causes expulsive efforts.

Anterior Displacements.—The weight of authority seems to be against the opinion that abortions are produced from this cause. Schuhl, however, thinks that if the trouble be

very marked it would lead to that result.

Lateral deviations have but slight influence upon gestation.

Prolapse occasionally interrupts pregnancy.

Peritoneal Adhesions fixing the uterus to neighboring organs usually soften, stretch, or break down during pregnancy. Outside of the uterine zone they may offer a firm resistance to the extension of the gravid uterus.

Peri-uterine Tumors, ovarian or formed by a lithopedion, may press directly upon the uterus: the former may be subject to inflammation, to rupture, to torsion of the pedicle.

II. Causes referable to the Father.—These have less influence than those proceeding from the mother, who not only furnishes but nourishes the ovum, yet they often play an important part. Among them may be mentioned excessive intercourse, causing deterioration of the semen, alcoholism, lead poisoning, and

Syphilis.—Some anthors have disputed the influence in producing abortion of syphilis in the father, but at the pre-

sent day it is a well-established fact.

Scrofula and Pulmonary Tuberculosis have an effect. D'Outrepont tells of a patient whose husband was tubercular, and who had five pregnancies, all the children dying at the eighth month. Subsequently married to a man in good health, she had four successful deliveries at term.

III. Causes depending upon the Ovum.—Thinness of

the Membranes may cause rupture from slight causes.

Alterations of the Decidua may result from endometritis.

Discusses of the Placenta.—This being the organ of fetal respiration as well as of nourishment, its impairment may cause death of the fetus. The diseases to which it is subject are hydrops of the chorial villi, fibro-lipomatous degeneration, hemorrhages caused by albuminuria, or heart disease, hypertrophy, edema, calcareous degeneration, and syphilitic lesions.

Stenosis of the umbilical vessels has been known to produce abortion.

Death of the fetus may occur from previously mentioned

279

causes; it then becomes a foreign body and is expelled within from fifteen to sixteen days. Boyers believes that it has three principal origins: syphilis, endometritis, and uterine displacements. Schuhl is of the opinion that it is caused by syphilis, mercurial and lead poisoning, albuminuria, anemia. pulmonary tuberculosis, a cancerous diathesis, and lesions of the fetal appendages, and that syphilis is the chief etiological factor.

Abortion from Unknown Causes.—As science advances these

are becoming more rare, yet some cases defy diagnosis.

Relative Frequency of Causes of repeated Abortion.—Olshausen claims that syphilis and retroflexion are the chief factors; Naegele and Greuser, uterine anomalies, such as flexions and catarrh; Phillips, retroflexion; Hüter, anteflexion; Egbert Grandin, Groskewitch, and most authors, syphilis. Schuhl places syphilis first, and uterine affections, especially displacements, fibromata, and lacerations of the cervix, next.

The Diagnosis of the cause is difficult. A careful examination of parents and fetus should be made, and both parents questioned as to age, profession, morbid history, general condition, and condition of various functions. Uterine flexions frequently disappear during abortion, and reappear a few days Syphilis may be unrecognized, but the result of specific

treatment may clear the diagnosis.

The Period during pregnancy at which abortion occurs va-In albuminuria it is rarely before the fifth month; in heart disease after the fifth month; in syphilis it may occur at any time, but usually during the second half of gestation. In endometritis it occurs during the first four months, in retroand anteflexions before the end of the fifth. Repeated abortions due to syphilis are apt to occur each time nearer term.

Methods of Prevention.—Treatment may be begun in the intervals of pregnancy or after the beginning of gestation.

I. The cause is to be sought for and treated. Some diseases, such as nephritis, pulmonary tuberculosis, and cardiac affections, are not amenable to treatment and are aggravated by pregnancy. The patient should be advised to avoid preg-

nancy.

Syphilis is to be treated from its inception. Before marriage, administer mercury and potassium iodide, and forbid marriage until danger of infecting the fetus is passed. Fournier thus classifies the conditions of permissible marriage in a syphilitic patient: 1. Absence of actual specific lesion. Advanced stage of disease (three to four years the minimum). 3. A certain period of absolute immunity consecutive to the last specific manifestations (eighteen months to two years). 4. Non-menacing character of the disease. 5. Specific treatment during three to four years at least.

After marriage, if either parent be syphilitic, contagion must be avoided, as the chances for the fetus are worse if both parents are infected. Warn the parents of the danger, treat infected lesions by cauterization and energetic general treatment, continued for two months at a time, with intermissions of a few weeks. Pregnancy is to be forbidden until the conditions in regard to danger to the fetus are fulfilled.

Of uterine malformations, only the double uterus is amenable to treatment. Schröder performed section of the septum with a happy result upon gestation. Chronic endometritis is to be carefully treated, curetting being recommended by many authorities. Trachelorrhaphy may be resorted to

for the cure of lacerated cervix.

The introduction of pessaries and shortening of the round ligaments may remedy displacements. Bands of adhesions may be treated by internal massage, rupture, or laparatomy. Treatment of lesions of the placenta and cord should be addressed to the cause, whether syphilis, endometritis, etc. When the cause is unknown counsel observance of the rules of hygiene and combat any morbid condition. Bear in mind that syphilis is not always acknowledged.

II. During pregnancy the mother only can be treated.

Hygienic precautions are to be observed, the appetite stimulated, and tonics administered. Constipation and diar-

rhea to be treated, but drastic purgatives avoided.

Mental emotions, traumatism, fatiguing efforts, journeys, occupations necessitating strain or prolonged exertions, are to be avoided. If abortions are apt to occur at any definite period, the patient should keep her bed several days before that time. General baths, sea baths, and douches are to be avoided, tight clothing removed, and sexual intercourse forbidden during pregnancy. If the patient be of a plethoric disposition, the danger of abortion is increased at the period corresponding to menstruation, and she should then keep her bed. Bleeding may be indicated.

In persons of a nervous diathesis give antispasmodics, especially potassium bromide, for eight days before and eight days after the time corresponding to menstruation (Beaufort).

In cases of a lymphatic temperament, constitutional weakness, obesity, diabetes, intestinal worms, heart disease, chloranemia, and pulmonary tuberculosis, give the treatment ap-

propriate to the case.

Occupations exposing the patient to the various forms of poisoning are to be avoided. Syphilis may be treated with potassium iodide and mercury, intermittent fever with quinine in moderate doses and its effects carefully watched, albuminuria by a milk diet (which is, however, better for the mother than for the fetus), pruritus by lotions of hot water

with carbolic acid, bichloride, or lead. In hemophilia give a plain, nourishing, but non-stimulating diet. If anemia is

profound induce abortion rather than prevent it.

During the menstrual molimen keep the patient in bed; bleed slightly; administer viburnum prunifolium in doses of from one-half to one drachm of the fluid extract four times a day-two days before, during the molimen, and two days after. Endometritis is to be treated by rest, which may have to extend through the greater part of the pregnancy, and slight bleeding. In cases of fibroid tumor, rest and hygienic measures alone are indicated. Pediculated tumors of the cervix may be removed. Slight ulcerations of the cervix require no treatment. For those of a more severe type hot douches may be given. Retroversions are to be treated by quiet; the patient should be told to urinate frequently. Constipation is to be treated. Pessaries should be cautiously used, if at all; Schultze has seen good effects follow their introduction. In the case of prolapsus rest is to be enjoined until after the fifth month; then, if the displacement has not been spontaneously reduced, tampons may be introduced or a soft pessary. Hüter claims that hard pessaries are well tolerated. When an ovarian tumor exists puncture may be tried in the case of cysts, ovariotomy if necessary. Alterations of the placenta are difficult to treat. Alkaline salts, as the nitrate of potassa, bicarbonate of soda, and chlorate of potassa, are recommended. Simpson believes that when the fetus dies from diseased placenta it is because of some interference with the respiratory function. Alkaline salts increase the amount of oxygen in the maternal blood. Simpson, Grimsdale, and others have used potassium chlorate with success, in doses of from one to thirty grains t. i. d. Unknown causes of abortion are to be treated by hygienic measures and prolonged rest in bed.

Among the very numerous etiological factors of repeated abortion Schuhl considers two of especial importance, namely, uterine affections, especially retroflexions, and syphilis. The existence of paternal syphilis is so often ignored that physicians should bear it in mind when frequent abortions occur and the cause is unknown.

A. R.

13. Couder: Protection of the Perineum during the Expulsion of the Trunk (Arch. de Toc. et de Gyn., July. 1891).—Madame Lachapelle was the first to call attention to the fact that the danger of perineal laceration is not over when the head is disengaged, but that the shoulders may cause or complete a laceration. Other authorities have contented themselves with accepting her statement without pursuing the subject or applying it to general practice.

If the trunk be capable of tearing tissues which the head has left uninjured, it is natural to suppose that it must be the larger of the two. The author has many times measured the bodies of the newly-born in order to verify this conclusion. The diameters are easily reducible, but, as no one diameter can be reduced without increasing another, the circumference is unaltered and the latter is therefore the more accurate measurement. Couder chose the bi-deltoid, taken just below the insertion of the deltoid muscle, and the bi-cubital, just at the elbow, the forearms being flexed upon the chest. As the thorax is increased in size by the first inspiration, he was careful to measure the circumference in still-born infants and in those who were born apparently asphyxiated but afterwards were revived, comparing the measurements taken before and after respiration had occurred. He found that in every case the volume of the trunk was greater than that of the head, and larger at the elbows than at the shoulders. The angular and hard projection of the posterior elbow in itself constitutes an element of danger.

The indication would seem to be the reduction of the volume of the trunk, and the only method of accomplishing this is by freeing the thorax from one of the arms which is pressed against it. In many cases the following occurrences are witnessed: One of the arms prolapses in slight degree, so that the hand reaches the level of the clavicle, neck, or even the cheek of the same or of the other side. When the head is expelled and has rotated, and the shoulders are engaging in the vulva, this arm slides forward upon the thorax and neck, and then suddenly emerges from the genital canal. This has the advantage of reducing the trunk by the thickness of the arm, and bringing an axillary-deltoid circumference instead of a bi-deltoid to the vulvar opening, and later the thoracico-cubital instead of the bi-cubital circumference. This brings the former measurement below that of the largest circumference of the head, and while the bi-cubital is still a trifle larger than the suboccipito-frontal, it may easily be further reduced by extending the forearm down upon the

abdomen.

If, then, after the expulsion and rotation of the head, a hand appears in sight, it is well to grasp the wrist, and, gently pulling it in the direction of the opposite clavicle, extract the whole arm. The position of the thumb will show to which side the hand belongs. The cases in which the hand is thus extended to the accoucheur are rare. We may, however, always endeavor to reduce the volume of the trunk by extracting one arm. Couder prefers to take the anterior arm. When the head has emerged and rotated he presses it down and tells the patient to bear down. The posterior shoulder

is thus pressed back, and the anterior humerus appears beneath the symphysis and is easily disengaged. The mere fact of pressing down the head may cause the elbow to emerge. In this case the humerus should be grasped by the thumb and index finger, and the elbow pushed towards the dorsum of the fetus. As soon as it reaches the median line the elbow disengages and the forearm and hand are easily brought down.

The head is now raised and the trunk slowly extracted, being curved upward towards the symphysis. This movement will have a tendency to extend the posterior arm, mak-

ing the sharp elbow less prominent.

Couder has practised this method of delivery fifty-three times; seventeen of the patients were multiparæ, thirty-six primiparæ. None of the multiparæ had a laceration, which is in nowise remarkable. Of the others, seven had a perineal laceration from four-tenths of an inch to an inch in length; that is to say, twenty-nine out of thirty-six perineums escaped injury, which is seventy-six per cent. The head was responsible for the beginning of the tear in each of the seven cases; in four the trunk increased the size of the laceration.

The maneuvre is easy of execution, and fails only when the patient's hips have not been elevated sufficiently to allow of the fetal head being pushed down, when the posterior shoulder appears too rapidly, or else when the perineum is so lax as to offer insufficient resistance to the posterior shoulder, or, finally, when the shoulders do not rotate. It is unattended by danger, except if the acconcheur attempt to force down an arm which is still deeply engaged, by hooking a finger into the axilla. The humerus might be fractured or the brachial plexus injured by this procedure. It is better to wait until the elbow is ready to be disengaged before pushing it backward, or else to grasp the shoulder with a dry cloth and draw it downward.

If the fetus have already suffered from a tedious labor it would be better not to subject it to this additional delay. Otherwise the maneuvre is one which Conder considers most valuable in the preservation of the perineum.

A. R.

14. Narich: Two Cases of Incontinence of Urine cured by Massage of the Urethra and Neck of the Bladder (Bull. et Mém. de la Soc. Obst. et Gyn. de Paris, November, 1891).—At the November meeting of the Society M. Porak read a paper by Narich, of Smyrna, in which he reports the two cases mentioned above. The first patient complained of frequent but not painful micturition. She was a multipara, suffered from lumbo-abdominal neuralgia, and had a marked anteversion of the uterus. Narich, at first addressing

his treatment to the incontinence of urine alone, daily applied local massage in the manner described below. After the third treatment the patient had derived decided benefit; after the sixth she was no longer obliged to pass her urine at night, and after the ninth micturition was normal. After the sixth séance Narich treated the uterine condition by means of a small laminaria tent, swabbing the cavity with creolin, and a Hewitt pessary, and prescribed tonics and hydrotherapy. The second patient was also a multipara, arthritic, obese, and of a nervous temperament. She consulted the doctor for frequent mieturition which was accompanied and followed by scalding, which had lasted for a year, and which nothing had been able to relieve. She passed urine as often as forty times a day, and at night even oftener, the consequent insomnia aggravating her pervous symptoms to an extreme degree. Having ascertained that the bladder was free from calculi, Narich proposed massage treatment, which he applied daily. After the seventh treatment the patient passed urine only ten or fifteen times a day, and after the seventeenth and last the cure was accomplished, to the great satisfaction of the sufferer, and has lasted six months.

Narich's method of massage was as follows, differing in a few particulars from that of Thure Brandt: Case I. assumed the dorsal position across the bed, the feet upon two chairs; Case II. lay lengthwise upon the bed, also in the dorsal position. Massage was divided into three steps.

I. Massage of the Vesical Region in the vicinity of the Cervix.—The index finger of the right hand was oiled and introduced from below upward into the vagina, as far as possible above the neck of the bladder. Then by a sweeping motion (like that of a pendulum) as much of the vesical surface as could be reached was massed through the vaginal wall. During this process, which was repeated from four to eight times, the palmar surface of the finger endeavored to approach the posterior surface of the symphysis, without, however, touching it.

II. Massage of the Body and Sphincter of the Bladder.— The most important part of the treatment. The index finger was brought down somewhat lower than in the preceding step, and the neck of the bladder, and even a part of the organ itself, pressed firmly against the symphysis. This was repeated slowly four or five times, and was found to be painful.

III. Massaye of the Urethra.—The index finger was brought still lower and pressed four or five times from below upward in an antero-posterior direction, at first directly upon the lower surface of the urethra throughout its whole extent, and then upon the little grooves which are distinctly appreciable at the lateral borders of the canal.

This process differs from that of Brandt in being applied to a larger surface of the bladder, in being accomplished by one hand unsupported by the other, and in omitting all vibratory movements, using only deep pressure and slow, deep massage.

A. R.

15. Carron de la Carrière: Galega as a Galactagogue (Arch. de Toc. et de Gyn., August, 1891).—Goat's rue is an almost forgotten drug at the present day, although at one time it had a certain reputation as a galactagogue. The author believes that it deserves to be reinstated, as, according to his experience, it has a decided effect upon the mammary gland, increasing deficient and restoring suspended secretion of milk.

All physicians have met with cases in which, in spite of every hygienic precaution, the milk becomes less in quantity without any appreciable cause. Poultices of the leaves of the castor-oil plant and faradization of the breast do not always give the desired result. Phosphate of calcium, malt extract, and Bordeaux are often administered. Galega is a useful adjuvant, and, even when used alone, gives excellent results. It is perfectly innocuous, is a stimulant to digestion, and is

slightly diuretic in its action.

The aqueous extract is the one to be preferred. One to five drachms should be given daily in divided doses. The amount may be increased if necessary. The drug takes effect within a few hours, but must be persisted in for at least ten days in order to secure permanent results. It may be administered with distilled water and simple syrup, or in mucilage in the form of pills. Fennel and calcium phosphate may be associated with it to advantage. An especially efficacious formula is the following:

Four to eight tablespoonfuls a day in water, wine, beer, or milk.

A. R.

16. Guibert, M. H.: Suppression of Milk following the Administration of Antipyrine (Arch. de Toc. et de Gyn., June, 1891).—The administration of antipyrine to two nursing women for the relief of neuralgia was followed by almost complete suppression of the milk, which, however, returned when the drug was suspended. Guibert's attention having been called to this fact, he improved the opportunity offered him for experimentation by his service in the maternity ward of the Montpellier Hospital, and gave the drug to

nineteen patients in whom it was desirable to suppress the lacteal secretion. In every case the desired result was attained, and in none were there any abnormal sequelæ. One patient, however, presented symptoms of septic infection on the fifth day after delivery. About thirty grains were given daily. The time required to suppress the flow of milk varied; in some cases two days were sufficient, in others six.

The principal means hitherto adopted to attain the same end are: repeated purgation, from thirty grains to over a drachm of the iodide of sodium; inunctions of the breast with the extract of belladonna, and compression of the breasts, all of these methods being aided by a meagre and rather dry diet. Guibert has no wish to underrate these methods of treatment, but he urges that the administration of antipyrine is easier, and not contra-indicated in many cases where vigorous purgation would be inadvisable. The patients, moreover, are not placed upon any dietetic régime, which in itself is an advantage.

As to its safety, the accidents following absorption of antipyrine are known to be sweating, polymorphous eruptions, cephalalgia, and vomiting; or, in other words, gastric phenomena. In the cases under consideration not one of these symptoms occurred, although the dose given sometimes amounted to as much as half an onuce in six days. Antipyrine was found in the urine twelve hours, and in the milk twenty four hours, after its first administration.

A. R.

17. Potherat, E.: Palliative Treatment in Cancer of THE CERVIX (Arch. de Toc. et de Gyn., August, 1891). Amputation of the cervix and hysterectomy are indicated when the cancerous process is strictly limited to the part to be removed. Unfortunately these conditions are not always realized, as the patient consults her physician only after the iehorous discharge has become abundant and malodorous, or abundant hemorrhages have reduced her strength and the cancerous process has consequently had time to invade the surrounding tissues. Curative methods are not to be thought of in such cases, but it by no means follows that the patient is simply to be put upon a course of morphine and left to die. Existence may be prolonged and even rendered tolerable. In support of this statement, for which he does not, however, claim originality or novelty, Potherat reports two cases which were under his immediate supervision. The first, a woman of 40 years, had a cauliflower growth upon the cervix, which bled easily and gave rise to discharge and a peculiar cancerous odor. The surrounding parts were so much implieated that a cure was impossible. As a palliative measure the excrescences were scraped with a curette and the whole cauliflower growth removed. Potherat even dug out

what he calls a "crater" in the interior of the uterus, energetically scraping away all softened tissue. He then irrigated the parts, cauterized all the freshened surface, and dressed it with iodoform gauze, which was renewed every two days. As a result of this treatment all discharges ceased; the patient regained her appetite and spirits; she walked about; her color was much improved. Healthy granulations appeared in the wound. The patient died five months later from cachexia without having had any return of metrorrhagia.

The second case was a woman of 49 years who was suffering from persistent hemorrhages. A cauliflower growth covered the cervix and invaded the vaginal cul-de-sac. The same treatment was adopted with equally good immediate results. Fifteen months later the doctor met her in the street; she was animated and possessed of energy, but her color and general appearance showed that the growth of the neoplasm was progressing. Nevertheless the operation had been of service, since it had stopped the hemorrhages and given her comparative health for several months.

This method of treatment is recommended by Schwartz. A. Paré, in the sixteenth century, "used it as a palliative measure for cancer of the uterus." At the present day we can apply it in a variety of ways. Destructive cauterization by means of the chloride of zinc, first proposed by Marion Sims, is favored in America and France. Potherat believes the thermo-cantery to be the best agent, and that it should be used only after curetting. Caustics might, however, be used to destroy unhealthy granulations.

Excision may be performed with a wire écraseur, the galvano-cautery, a bistoury, scissors, or curette, the author much preferring the last-named instrument, as it carries the process of excision farther into the uterus.

18. Oui: Two Cases of Intra-uterine Tamponade (Arch. de Toc. et de Gyn., September, 1891).—The author reports two cases in which the method recommended by Auvard in his work on Obstetrics, for the checking of hemorrhage, was adopted with good results. In the first case (one of abortion at four months with retention of the placenta) the flow had already continued for twenty hours, and although it was not excessive the patient was rapidly losing strength. Efforts at dislodging the adherent placenta were futile. Oui, preferring intra-uterine to vagina tamponade, because of the better chances for antisepsis and the greater probability of its exciting uterine contractions, drew down the uterus and by the help of dressing forceps packed the cavity with iodoform gauze. The tampon was withdrawn the next day, the placenta followed it, and the patient recovered normally.

2SS ITEM.

The second case was one of placenta previa, in which an alarming hemorrhage resisted all efforts at hemostasis, such as intra-uterine douches of hot water, injections of ergotin, and compressions of the aorta. Syncope was imminent. The iodoform gauze was at once introduced into the uterine eavity by the forceps, and packed with the fingers, also filling the vagina. Hypodermic injections of caffeine and ether, the administration of a punch and the acetate of ammonia. were resorted to in order to combat the tendency to syncope. The tampon was removed the next day. Symptoms of septicemia set in twenty four hours after the removal, but the patient finally made a good recovery. Infection seems to have been due to direct or transmitted contagion from a patient who occupied the next bed to hers, and who died a few days later from septic peritonitis.

### ITEM.

The Committee on Organization of the Pan-American Medical Congress, at its meeting at St. Louis last October, elected the following International Executive Committee: The Argentine Republic, Dr. Pedro Lagleyze, Buenos Ayres; Bolivia, Dr. Emelio di Tomassi, La Paz, Brazil; Dr Carlos Costa, Rio de Janeiro; British North America, Dr. Jas. F. W. Ross, Toronto; British West Indies, Dr. James A. De Wolf, Port of Spain; Chili, Dr. Moises Amaral, Santiago; United States of Colombia, Dr. P. M. Ibañez, Bogota; Costa Rica, Dr. Daniel Nuñez, San José; Ecuador, Dr. Ricardo Cucalon, Guavaquil; Guatemala, Dr. José Monteris, Guatemala Nueva; Hayti, Dr. D. Lamothe, Port au Prince; Spanish Honduras, Dr. George Bernhardt, Tegucigalpa; Mexico, Dr. Tomás Noriega, City of Mexico; Nicaragua, Dr. J. I. Urtecho, Grenada; Peru, Dr. J. Casamira Ulloa, Lima; Salvador, Dr. David J. Guzman, San Salvador; Spanish West Indies, Dr. Juan Santos Fernandez, Habana; United States, Dr. A. Vander Veer, Albany, N. Y.; Uruguay, Jacinto de Leon, Montevideo; Venezuela, Dr. Elias Roderiguez, Caracas. Hawaii, Paraguay, Santo Domingo, the Danish, Dutch, and French West Indies are not yet organized. Nominations of local officers have been received from a majority of all the members of the International Executive Committee, and a number of the lists have been confirmed by the Committee on Organization. These will be announced as rapidly as acceptances are received.

Charles A. L. Reed, Secretary-General.

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### ORIGINAL COMMUNICATIONS.

#### INDURATION

FOLLOWING PELVIC CELLULITIS IN THE FEMALE, AND ITS TREATMENT BY GALVANISM.

 $\mathbf{BY}$ 

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According to the teaching of modern pathology, we distinguish two forms of pelvic inflammation in the female; pelvic peritonitis, with which we are but little concerned here, and pelvic cellulitis, or peri-uterine cellulitis, whose sequel, induration, its manifestations and electrical treatment, will engage our attention; such deductions as are made in the following remarks being based upon a study of 200 cases occurring among over 5,000 gynecological patients of which I have preserved notes. These cases presented themselves after the acute symptoms of the cellular inflammation had been passed and the disease had entered its subacute or

chronic stage. Pelvic cellulitis, though not so frequent as peritonitis, is a rather common complaint in the female, more especially after parturition, and when it has become chronic is the source of much suffering. In the past its remedying has been uncertain and not infrequently without avail.

Beginning as an acute or subacute affection, pelvic cellulitis follows a regular series of stages, at any one of which it may terminate. Thus it may exist simply as a congestion with serous exudation, to be rapidly followed by absorption; and it is surprising how quickly such a condition may appear and disappear. Or, going on a step further, there is an outpouring of plastic material into the meshes of the cellular tissue. This also may end at this point and in its turn, though not so rapidly, be reabsorbed, the affected parts being left in a completely or comparatively uninjured state. Or, if the process fails to stop here, one of three results may follow: abscess, cystic tumor, or chronic induration. It is difficult to accurately determine the absolute and relative frequency of these various terminations. My own cases, coming under the head principally of chronic ones, or those in whom the acute stage had already been passed, are hardly available in settling the question of the frequency of the wished-for ending, resolution. Many cases of slight degree terminating favorably go untreated, and go to swell the list of instances of resolution. Of course the number of these it is impossible to get at. However, in a second series of cases, where the patients were seen early, the ultimate results were determinable. The cases numbered 59, and of these 29, or 49.2 percent, ended in resolution; 14, or 23.8 per cent, in abscess; 4, or 6.7 per cent, in thickening and shortening of a broad ligament; while in 12, or 20.3 per cent, induration supervened. Elimination of the 29 instances of resolution shows that in 40 per cent of all chronic cases these firm, hard, indurated masses of cellulitic exudation will be found, and that even in instances where the patients were seen early.

Considering now only my series of old cases, a worse condition of affairs is discovered. Of 200 such patients, seen after a month or more had elapsed between the first appearance of symptoms and the coming under observation, in 9 only did resolution rapidly follow. But in 25 others the patients

remained so short a time under my care that the ultimate results could not be determined; leaving thus 166 cases which undoubtedly entered the chronic stage. Of these, 20 were instances of pelvic abscess, 1 of cystic cellular tumor, 18 of thickening and shortening of a broad ligament with consequent uterine displacement, while the large number of 127, or 76.5 per cent, of all such chronic cases terminated in what has been well named induration. Besides these, in 7 of the cases of abscess, which either opened spontaneously or were surgically relieved, cure of the diseased condition was not absolute, but there remained a hard, cellular mass. Thus we have in reality a total of 134, or 80.7 per cent, of instances of induration, indicating the great frequency with which this condition follows neglected cases, since we here find this just twice as common as when the cases were seen early. These terminations may be more or less modified by co-existing peritonitis, in fact usually are; but independent of adhesions, ovarian or tubal disease, we find not infrequently conditions which can only be dependent upon a previous cellulitis.

The etiological factors active in these 200 cases go to prove that these were true cases of cellulitis. Abortion and labor at term together were responsible for fully 86 per cent; operations on the internal genitalia, 8 per cent; uterine examinations, 2 per cent; overlifting, as in the raising of heavy weights, 2 per cent; miscellaneous causes, such as the introduction of a pessary, a jump, a kick, etc., being responsible for the remaining 2 per cent. Thus it will be seen that in the vast majority of instances the puerperal state is the primary etiological factor in the production of this malady. The relative activity of abortion and labor at term is worth a passing notice, for it shows how exceedingly frequent the former is operative; this fact being made more apparent when we remember that the relative frequency of interrupted pregnancies, as compared with those at term, is as one to six, the ratio for cellulitis being as one of the former to one and one-third of the latter. Hence we may conclude that abortion as a cause of cellulitis, certainly in those cases occurring among the poorer classes, is relatively far more active than full-time labors. Among those able to command the necessary attention, this does not hold good to so marked a degree, for in private practice the proportions do not stand as above. Proper care being exercised, the relative etiological activity of these factors among the better classes will be found to be as one to four and a half; yet even this indicates that in reality abortion is more apt to be followed by cellulitis than when the labor occurs at the natural period. The explanation for this is simple. Most women regard abortion as a very simple and unimportant matter, act accordingly, are careless about it, get up and go about too soon, the natural result being uterine or peri-uterine disease. Uterine disease owes its origin more frequently to neglected abortions than to almost any other cause, and among their sequelæ cellulitis plays an important part. Cellulitis, to me, is always septic in its origin, from lacerations of uterine texture during labor at term or abortion or following operations or injuries, which open a doorway for the admission of the toxic material. Lack of care, it can easily be understood, but encourages such entrance. Hence the greater frequency of this condition after abortions, an additional factor being found in the condition of the tissues of the uterus during the earlier periods of gestation; for then, being more unyielding, they are more apt to give way under the expelling force.

Were we able to examine and treat all cases of cellulitis early, whether mild or severe either in degree or kind, my belief is that fully 50 per cent would be found to terminate in resolution, while the other 50 per cent, in spite of any means at our command, would go on to shortening of ligaments with thickening, encysted serous formations, abscess, or indurations. It is really surprising, in looking over the literature of pelvic inflammation, to note how little is written of induration, abscess seemingly taking up almost the entire attention of writers. True, abscess entails greater danger and more intense suffering, running its course, however, more rapidly; induration, on the other hand, is more insidious, more prolonged, entailing little or no immediate danger to life, but is far more common and carries in its train chronic invalidism, incapacitating women for work and being a source of almost constant pain. As it occurs principally from neglect among those least able to command medical attention, and therefore among those who are forced to labor, its importance is readily understood.

Seat.—A brief résumé of the distribution of the pelvic cellular tissue is here in order, for this alone determines the seat of these indurated masses. Connective tissue to a small amount is found between the posterior wall of the bladder and the uterus, the supravaginal portion of the cervix and the anterior vaginal wall, though here it is comparatively scant. Between the posterior vaginal wall and the anterior rectal wall, as far as the apex of the perineal body, there is considerable loose tissue, whereas there is none between the urethra and anterior vaginal wall. At the junction of the broad ligaments with the uterus there is a large amount of this tissue; in fact, here it is most abundant, with large blood vessels coursing through it, gradually thinning out as we approach the sides of the pelvis. In the utero-sacral and utero-vesical ligaments the amount is comparatively small. Hence we see, reasoning from these facts, cellulitis, and consequently induration, should occur most frequently in the broad ligaments, next beneath Douglas' cul-de-sac, and least between the bladder, lower uterus, and upper vagina. Theory and fact here agree. Among my 200 cases of subacute and chronic cellulitis, in 95 the disease was in one or the other broad ligament; in 31 it almost surrounded the uterus, being nearly universal, this organ being, as it were, embedded in a mass of cellular exudation which had been poured out into broad ligaments, sacro-uterine ligaments, and beneath Doug-las' pouch. Even in these cases the parts anterior to the uterus were almost invariably found free. In 16 the mass existed posteriorly only, in 16 others it presented itself in the left broad ligament and posteriorly, and in 7 in the right broad ligament and posteriorly. Anterior to the uterus the exudation was detected but four times—once anterior and coincidently in the right broad ligament, once in the left and in front of the womb, and only in one other between the bladder and uterus and upper vagina. In a fourth case the exuded mass was detected in both broad ligaments and in front. In all these anterior cases but the last the exudation was comparatively small. In 9 other patients the masses were found in both broad ligaments only, but it is more than probable that originally the plastic effusion had been more widespread and that partial absorption of exuded products

had occurred. Once the neck of the uterus alone was surrounded, as by a ring, by a firm band of induration. Recapitulating, we find that in 161, or 90 per cent of all cases, one or both broad ligaments were involved; in 70, or 39 per cent, the trouble was found behind, beneath Douglas' cul-desac; while in only 4, or a little over 2 per cent, did the disease manifest itself in front of the uterus. As regards the right and left broad ligaments, a decided preponderance is found in favor of the latter; thus in 120 instances where one or the other ligament was involved without its fellow, in 79 the disease was left-sided, in 41 right—that is, where the trouble remained confined to one side or the other, in 66 per cent it was on the left, in 34 per cent on the right, or it is almost twice as frequently met with on the former side as on the latter. Besides this, even in cases where the exudation existed in both broad ligaments, the left was found to contain the larger amount in the majority of instances.

In 30 recent cases not included in the foregoing calculation, in 4 the exudation was almost universal, in 18 in either one or the other broad ligament, in 2 posteriorly, in 1 bilaterally in both broad ligaments only, in 2 in the right ligament and posteriorly, in 1 in the left and posteriorly, and in 2 surrounding the cervix; thus 26 times the broad ligaments were involved, 9 times the disease invaded the cellular tissue behind, no case of anterior cellulitis being found among these.

Such, then, being the facts as regards cellulitis as a whole, let us see how this compares with its sequel, induration, with which we are here most concerned. Among my 67 recent cases induration followed in 15 instances, 3 of these being cases where curing up of an abscess failed to entirely relieve, a mass of old cellulitic exudation remaining. Of these 15 cases 3 surrounded the uterus, 4 were right-sided, 4 left, 1 bilateral, 1 posterior, 1 left-sided and posterior, and 1 paracervical.

Among my 200 other cases, in 134 the termination was in induration, situated as follows: right broad ligament, 26 cases; left broad ligament, 42 cases; peri-uterine, 24 cases; posterior, 13 cases; anterior, 1 case; bilateral, 3 cases; paracervical, 1 case; left broad ligament and posterior, 11 cases; right broad ligament and posterior, 8 cases; bilateral and

anterior, 1 case; left broad ligament and anterior, 1 case; not stated, 3 cases. Here, as was to be expected, we note the exceedingly great frequency of occurrence of this condition in one or both broad ligaments, these parts being involved no less than 117 times, or in about 89 per cent of all instances. A résumé of the foregoing table shows the induration to have been: left-sided, 58 times; right-sided, 38 times; posterior, 32 times; anterior, 3 times; peri-uterine, 24 times; paracervical, once.

Size and Shape.—In size and shape these masses differ greatly. Usually larger and more widespread at first, they gradually diminish until they reach a size at which they remain stationary for a time, varying considerably in different cases. This diminution is primarily dependent upon absorption of the effused serum, secondarily upon partial disappearance of the lymph. In some instances the entire pelvis is occupied by the effused material, but this usually is in cases seen early, while in others only a few scattered indurated masses of the size of a hickory- or walnut are detected. The prevailing size seems to be that of an ordinary orange. Of course situation has a good deal to do with their dimensions, the largest ones being always found in the broad ligaments.

The shape is usually irregular, and, when in the broad ligaments, in addition somewhat flattened antero-posteriorly. When seen early this irregularity is most marked; later on they are smoother and often remind one, both in consistence and feel, of a uterine fibroid. In very old cases, when in the broad ligaments, the mass is apt to be wedge-shaped, with the base of the wedge at the uterus.

Feel.—In the beginning we get the ordinary boggy feel of cellulitis, depending upon the coexistence of effused serum in the meshes of the cellular tissue with the lymph; but as time passes on and the former disappears, the mass becomes firmer and firmer, until finally it becomes of an almost stony hardness. Hence the degree of hardness determines the interval between the acute attack and the time of examination; though this is not an inflexible rule, for I have sometimes seen this condition existing rather early in the disease.

Duration.—The period during which such induration may

persist is almost indefinite; months and years may intervene between its appearance and disappearance, and in some cases it may even remain permanently. The tendency is with time to diminish gradually. My own cases give pretty positive testimony upon this point. In 98 cases the duration of the induration, before coming under observation, was accurately determined, and found to vary from one month to eight years, the general average being about seven months, and the situation of the induration regulating to a certain extent the period during which such masses continued—that is, rapidity and completeness of absorption varying with localization. Thus when posterior, disappearance is slowest; when anterior, quickest. When the pelvis is found filled with exudation the cases will have presented themselves rather early in the disease. Broad-ligament cases seem to be midway, as regards time, between these universal cases and those where the exudation is confined to the parts behind the uterus. For instance, those anterior had lasted 2.5 months; in broad ligaments, 7.2 months; posterior, 8.0 months; universal, 6.5 months—these being the average intervals of time between the beginning of the disease and the time of presentation for treatment.

In discussing thus briefly some of the principal points re-lating to the subject of pelvic induration as a preliminary to what is to follow, I have preferred to present facts alone, theoretical disquisition being carefully avoided; for whether we believe these masses to owe their origin to a cellulitis or a peritonitis, having assured ourselves that neither pus nor encysted serum exists, our course as practical physicians remains the same. Cure is our aim, and that by methods entailing the least possible danger. From simple measures, local and general, presumed to bring about absorption, to the radical one of the knife, is a long step, yet these widely divergent methods have been recommended. Some, conservative in their ideas, resort to such means as blisters, iodoform, tineture of iodine, mercury, etc., locally applied, together with the internal use of iodide of potash, mercury, and the like, calmly following this plan of treatment for months, until the patient, growing weary and noting but little or no benefit, betakes herself to some other practitioner, or until Nature, kindly stepping in, cures the disease; for in not a few of these cases does the

exudation spontaneously disappear, though a long time may pass before this happens. Others, more radical in their practice, recommend and employ the knife. It must be confessed, judging by results, that the latter apparently have the better of the argument. Yet the dangers to life are considerable where operation is resorted to. Believing that the submission of our patients to such is not warranted by the gravity of the disease, since it carries with it but little danger to life, merely invaliding its victim, a resort to so radical a measure should be discountenanced. If there be a method without its danger, one which will cure in a reasonable time, that is the one to be preferred. This plan of treatment, I do not hesitate to affirm, will be found in galvanism properly and intelligently applied. Let me again emphasize here that we are dealing with instances of persistent simple cellular exudation alone, uncomplicated by tubal or ovarian disease, and unconnected with the presence tubal or ovarian disease, and unconnected with the presence of pus or encysted serum. We have heard a great deal, pro and con, of late about electricity in gynecology, affirmations and denials being as thick as bees around a hive. Heated discussions in medical societies have been indulged in, personalicussions in medical societies have been indulged in, personalities being even descended to. The trouble has been that the electricians have claimed too much and the surgeons have denied too much. There are cases which can be cured by the current, and there are others which the knife alone can reach. Let us look for the happy mean, and determine which cases are amenable to the one and which to the other. As scientific physicians we gain nothing by denying everything. Negation rarely makes progress. Such were the ideas governing me when entering upon a trial of galvanism in the treatment of these uncomplicated indurated masses; and the results have been more than gratifying, symptoms being rapidly relieved, while absorption has been instituted, though more slowly. Where the cases were comparatively recent the cure, both symptomatic and pathologic, has been rapid; where older, although relief from suffering was marked, the lesion itself disappeared only after more persistent and prolonged applications. In only one case was there failure to relieve, and the explanation for this became apparent later on; an exquisitely sensitive, inflamed ovary, embedded in a mass of exudation, not being detected until absorption of this mass was brought about by galvanism. So even here this agent served a useful purpose, failure was far from absolute, and an obscure diagnosis was cleared up by it.

To carry out this plan of treatment a simple apparatus is necessary. This consists of the battery, the conducting cords, the electrodes, the rheostat or current controller, and the milliampèremeter. The choice of a proper battery is very important, since the character of the cell determines the reliability and durability of our force. As the cases are walking ones, to be treated in our offices, a stationary battery of sufficient power can easily be selected. The one I use is made by the Waite & Bartlett Manufacturing Company of this city, and is perfect in every respect. It consists of sixty Axo-Leclanché cells, though one of forty cells will do just as well. These cells are to be particularly recommended on account of their reliability, always working under every and any condition that may present itself, besides, under ordinary use, lasting from one to two years without the slightest attention. The cells are arranged in series, and so connected with the current selector that any single cell or series of cells may be used independent of the others. However, in practice it is best to throw all your cells into the circuit, so that the wear and tear shall fall on all equally; your elements, like the "one-horse shay," all breaking down at one and the same time, and not leaving here and there a worn-out and useless cell or series of cells. There is also a polarity changer, or commutator, by which the poles can be reversed without removal of the electrodes.

The conducting ends should be of different colors, red and green for instance, the red in my practice being always connected with the positive pole, so that a single glance alone is sufficient to show which pole is the active one.

The electrodes are not many and are exceedingly simple in construction. First we have the external ones, and these are either those of clay made after the method of Apostoli, or this slightly modified, or of wire gauze, or, better still, of felt. The clay electrodes are of two sizes, six by eight inches and eight by ten inches. When made as Apostoli directs they are ready for immediate use. The modified Apostoli is essentially his, but has the advantage of not being so nasty and inconvenient. It is simply one that is permanent. The only difficulty

about it is in keeping it sufficiently soft. This can, however, be accomplished in one of two ways: either by having it, when not in use, wrapped in wet towels, or by placing it in a zinc box in which there are layers of thick wet felt, after the principle of your expert fisherman in keeping his leaders soft. The wire gauze electrodes are of different sizes and are used by wrapping in wet towels. The felt electrode, which I have used considerably of late, and with great satisfaction, is made as follows, and any one of ordinary ingenuity can construct it: Secure from a plumber a piece of sheet lead, or better, a sheet of cure from a plumber a piece of sheet lead, or, better, a sheet of block tin, of the desired size, and also a piece of ordinary felt such as is used in covering steam pipes. Gouge a number of holes in the lead or tin at regular intervals, and to the lead or tin fasten a binding post for the reception of the conducting cord. The felt is now placed in position, care being taken to cover over the edges of the lead or tin plate by doubling the felt around, otherwise the electricity will be given off more freely here and unnecessary pain consequently inflicted, thus interfering with the administration of a current of sufficient strength. Then cover over the felt with a piece of towelling or strong twilled muslin, and over this a piece of towelling or strong twilled muslin, and over this a piece of oil-tanned chamois leather, the back of the lead or tin being covered in by rubber cloth; sew snugly, and your electrode, after proper wetting, is ready for use. It can be kept wet for days and weeks by simply covering over the chamois surface with oiled silk. A towel wrung out in hot water and placed upon the electrode for a few minutes will render it sufficiently warm for immediate and light and the surface of the state diate application to the surface of the abdomen. To secure the felt in place it had better be quilted to the lead or tin plate. An electrode constructed as above has been used with powers up to 250 milliampères, and that without a particle of pain more than the ordinary and not unbearable burning in the skin, while the after-effects, such as urticaria, etc., are in great part absent. Its durability, cheapness, ease of application, cleanliness, readiness for immediate use, painlessness, and great pliability recommend it above all other dispersion electrodes I have tried. My preference at present is for this felt electrode, the Apostoli, either original or modified, taking second place. Puncture is never resorted to in the treatment of these cases, for the reason that its risks are too great compared with

the dangers of the disease itself and the results otherwise obtainable; besides, the cases are invariably office ones, and such should never be treated by puncture. Hence the internal electrodes also are simple, few, and such only as can be safely introduced into vagina or uterus. Of the vaginal kind we have but two—a ball or cylindrical electrode of copper, nickelplated where the negative is the active one, and a ball of clay having a carbon centre where the positive pole is used. There is one difficulty with this latter—if the clay be too much softened, where the power used is high, polarization is apt to occur, the water in the clay being split up, a layer of gas thus forming on its surface. This has happened to me several times, the electrode on removal having a tense, elastic feel, while a distinct puff of gas was noticed on pressing it firmly. However, this has interfered but little with its usefulness, as it has only happened with higher powers than are here usually resorted to; besides, this can be readily overcome by but slightly moistening the clay. The uterine electrode is the ordinary platinum one, which has nothing against it except its expense. As the negative pole is almost always the active one, even this may be dispensed with and one of copper nickelplated substituted.

Although the rheostat, or current controller, is one of the most important attachments to a medical battery, as by it the flow of the current is regulated and the danger of shocks overcome, perfection in its manufacture has not yet been reached. It is simply an instrument by which resistance to the flow of the electrical fluid can be increased or diminished at will, in this manner allowing the current to pass freely when high powers are required, or obstructing its passage when only low current strength is demanded. There are many forms in the market, but none, I am sorry to add, for medical purposes, approach anywhere near an ideal instrument. They are of three general classes: the German-silver wire ones—mere modifications of the original Wheatstone—the water rheostats, and the dry rheostats. Those of wire coils are now used in medical practice only to measure human resistances. Of the water rheostats, the best I have found to be the Bailey, made by the Law Telephone Company, of this city. It consists of a large glass jar filled about one-third with water, into which, by ratchet-and-pinion movement, plates of gas carbon can be lowered. Water rheostats are objectionable on account of their tendency to polarization; but so far, in my experience, such has not held true of the Bailey controller. The objections to this instrument are, first, its rough workmanship, giving unequal movement of the carbon plates; second, the tendency of the carbon to flake off, when one of two things may happen—the small grains of carbon floating in the water, or becoming dissolved by it, increase resistance, and it will be found in practice, from this cause, that the water will require frequent changing; or a fragment of the carbon may become entangled between the carbon plates, and the current thus short-circuited, a shock to our patient resulting. A third objection is the possible oxidation of the metal joints. In spite of these objections this instrument has proven a very useful one, and so far has been given the preference by me in the absence of a better controller. Over a year and a half's continuous use of this instrument has been without accident, and only the first of these objections has been found operative. The dry rheostats are mostly modifications of the original Butler instrument. Such forms are objectionable, used in connection with the galvanic current, for the reason that even a minute grain of sand or dust dropping on the graphite surface is sufficient to cause them to jump, and, thus interrupting the current, induce a shock. They all consist, the original as well as the modifications, of a thin layer of graphite, over which a wheel or a flat brake is made to pass, thus increasing or diminishing the resistance offered by the graphite surface with the distance from pole to pole. This instrument, as before said, is not to be recommended. A new rheostat which has lately been introduced by the Waite & Bartlett Manufacturing Company has pole to pole. This instrument, as before said, is not to be recommended. A new rheostat which has lately been introduced by the Waite & Bartlett Manufacturing Company has given me great satisfaction. In all respects it is the same as the ordinary water one, save that powdered graphite is substituted for the fluid. It consists of a tube of glass almost filled with powdered graphite, in which a rod having a knife blade attached is made to pass, the length of the column of powder intervening between the poles, the knife blade forming one, determining the amount of resistance. So far but two objections to this instrument have offered themselvesthe packing of the powder, and the tendency of the current to increase by sudden jumps. No doubt these will be removed in time. A familiarity with its use has enabled me partly to overcome this latter objection.

The last instrument necessary in our outfit is the meter. Its importance resides in the fact that it permits exact dosage. No physician gives drugs in a haphazard way, the knowledge of his dose being very important to him. The same is true of galvanism. Do not let your patient's sensations guide you, but know exactly how much you are giving. Pain is a very poor guide. Some women will suffer greatly without giving a sign, while others will cry out before they are hurt. Electricity, to the laity, is a very mysterious agent, whose use carries great terror with it. Besides, different current strengths give different results, and in the treatment of induration absolute dosage is important.

Method of Use.—Before proceeding to the administration of galvanism, examine your battery carefully, so as to reassure yourself that all connections are properly and firmly made, for otherwise the circuit may be broken, a shock given, and with it the loss of your patient's confidence. The patient being placed in the ordinary back position, with the knees drawn up, the abdominal electrode is first to be carefully placed, being sure that all bony processes are avoided. If there are any scars, scratches, or blemishes upon the skin, cover them carefully with some non-conductor, for otherwise pain will result, as the current shows a special predilection to penetrate at such points. The size of the external electrode depends upon the current strength to be given; where 100 milliampères and upwards the larger one, where below this the smaller one, is to be employed, pain and resistance being considerably modified by bearing this rule in mind. In fact, it is good policy to give the preference to the larger-sized external electrodes, for it is an unvarying rule that the larger the dispersion electrode the less the chances of inflicting pain and the less the resistance offered. The next step is the introduction of the internal electrode. This can easily be done without the aid of a speculum, the finger acting as a guide. The internal

<sup>&</sup>lt;sup>1</sup> This tendency to pack has been overcome by substituting a mixture of graphite and powdered soapstone for the simple graphite.

pole being adjusted, our patient may be allowed to extend the lower extremities, so as to diminish the possibility of pressure of the external electrode on bony prominences, as of the lower ribs, or crest or spines of the ilium. Just here arises an important question: Which shall be the internal pole and which the external? These electrodes may be dis-tinguished as the active and the passive or dispersing. The former is the one from which we expect to obtain our former is the one from which we expect to obtain our results, and therefore should be carefully decided upon. Where pain alone is the primary consideration, the positive, being the sedative pole, is always given the preference; but where absorption of inflammatory products is our main aim, the negative should always and persistently be resorted to. Hence the latter is far more frequently employed than the former. Usually, where the anode is the preferred pole, its use is for a short time only, generally at not more than two or three sittings, and occasionally during the course of treatment where pain to a severe degree has for some cause or other recurred, the cathode being then substituted and persisted in until the end of treatment. If we select the positive, the clay ball, previously slightly softened and positive, the clay ball, previously slightly softened and covered by a layer of absorbent cotton wet in carbolized water, is introduced; if the negative, the metal ball similarly protected. With the finger in the vagina as a guide, the active electrode is passed up along the cervix, right or left or behind it, depending upon the seat of the induration, and pressed snugly against the vaginal vault without using force, our object being to bring this electrode as near as possible to the effused mass. The intra-uterine method is very rarely resorted to by me, as I have found that practically in this condition our results are better where the intravaginal method is preferred, the current being passed more directly through the indurated tissues thereby. Besides, the intravaginal is decidedly less painful, and therefore permits the requisite decidedly less painful, and therefore permits the requisite current strength to be employed with far less suffering to our patient. The electrodes being thus carefully adjusted, the current is slowly turned on by means of our rheostat, the meter being so placed that we can at once stop when the desired strength is reached. The length of the sitting depends upon the strength of current administered. This latter should

vary between the limits 75 and 150 milliampères; never, if possible, below the one, never above the other. We gain nothing by making the current too strong, we lose everything by making it too weak. The average strength will be about 125 milliampères. In practice you will find that your patient's tolerance will differ considerably at different times, so that there will be slight fluctuations in the strength of the various administrations. If you give 75 milliampères, continue the sitting during eight minutes; if 100 milliampères, during four to five minutes; if as much as 150 milliampères, during four to five minutes; if as much as 150 milliampères, stop at the end of three minutes. Prolongation of the séance beyond these limits is unnecessary and is apt to cause cauterization, which, if possible, you wish to avoid. Always turn off your current with as much care as you turn it on, before removing your electrodes, to avoid pain or shock. The sitting over, the vagina may be washed out with an antiseptic solution, iodoform or some similar powder and a tampon introduced, and the patient directed to keep herself fairly quiet for about an hour. Frequent sittings are indicated, one to three times per week at first, later on not so often. The higher the current strength used the less often are the séances advisable. During menstruation they are, of course, to be intermitted.

The steps of this plan of treatment are therefore: 1. Localization of the indurated mass. 2. Protection of all scars, abraded surfaces, etc. 3. Placing of dispersing electrode on the abdomen. 4. Introduction of active pole, almost always the negative. 5. Gradual turning on of current by rheostat. 6. Administration of from 75 to 150 milliampères for from three to eight minutes. 7. Gradual turning off of current by rheostat. 8. Removal of electrodes, the active one first. 9. Antiseptic precautions and rest.

Now as to results. Given a case of simple, uncomplicated pelvic induration, we can always promise rapid symptomatic cure, a very few sittings usually bringing this about. Cure of the lesion is slower but not less sure. It is remarkable how rapidly pain and suffering disappear under this treatment. Do not, however, expect that a few applications will permanently banish the pain, for indiscretions on your patient's part

will almost surely be punished by its recurrence, though never, in my experience, to the original nor to so persistent a degree. Failure to ameliorate symptoms, to me, indicates complications. Never yet have I met with this untoward result in simple cases. The lesion, as is to be expected, disappears slowly in old cases, but far more rapidly in the more recent ones. Hence the length of treatment varies considerably, months passing in the former, weeks only in the latter forms; from two to three months being about the average duration of galvanization. The quickest cure was in two weeks; the longest time consumed in any one case was five and a half months. No plan of treatment that I have ever tried—and I have tried many—has ever given such happy and uniform results as this.

But as words alone prove nothing, facts being needed to carry conviction, let me here submit to your judgment the histories of a few of the many cases thus treated, and on them let me rest my claims for galvanization as a therapeutical agent in the cure of simple, uncomplicated pelvic induration. No matter what may be your theoretical beliefs regarding the origin and meaning of these masses, let me ask but a fair, unprejudiced trial of this agent in their relief. The method is simple, requires no great special technical knowledge, and is therefore easily carried out.

Case I.—Rosa K., act. 21 years; married eleven months; had a child six weeks before coming under observation. On about the fifth day after delivery, the latter having been normal in every respect, had chills, followed by fever, pains in abdomen, etc. Complains of pain now in the right side, low down, about the region of the ovary, and in the back. Bowels very costive; urination frequent and painful. General condition

bad; face shows signs of suffering.

Uterus normal in size, shape, and position, though its mobility is considerably curtailed; cervix eroded; external os gives exit to a free mucous discharge. On the right side, and extending posteriorly in the broad ligament, a firm, round, sensitive, irregular mass somewhat larger than two fists.

Diagnosis.—Pelvic induration following acute pelvic cellulitis.

Treatment.—Tinetura ferri chloridi and galvanism.

June 30th: Galvanism, 125 milliampères, 4 minutes; posi-

tive pole intravaginal. July 2d: Galvanism, 140 milliampères, 4 minutes. Diminution of pain for twenty-four hours following the first application. July 7th: Galvanism, 100 milliampères, 5 minutes. Absolutely no pain since last séance; general condition decidedly better; sleep and appetite improved; look of suffering gone. The exudation is diminished fully two-thirds, but little posteriorly, while the mass in the right broad ligament is now only of the size of an orange. Uterus much more movable. July 11th: Galvanism, 125 milliampères, 4 minutes; the negative pole was now substituted for the positive pole as the active one, introduced into the vagina up to vault on the right side. Patient has absolutely no pain and considers herself perfectly well, wishing to cease attendance. Exudation all gone posteriorly, but a mass the size of an English walnut remains in the right broad ligament. Parts almost insensitive; uterus quite movable. July 14th: Galvanism, 150 milliampères, 3 minutes. Exudation almost all gone now on the right side, a soft, flat, insensitive mass the size of a hickorynut alone remaining. Uterus perfect movable. Steady improvement in general condition. Absolutely no pain anywhere. As she felt perfectly well, was free of suffering, and considered herself cured, she positively declined further treatment.

This case was remarkable for the rapidity of the disappearance of the exudation, but five applications being necessary to almost bring about its complete absorption. I am certain that but one or two more sittings would have caused its entire disappearance, though no doubt absorption was progressive even after cessation of treatment. As the disease was recent, but six weeks having elapsed since its beginning, the explanation is found therein for this quick disappearance of the exuded mass. The length of treatment was but two weeks, the total number of applications five, the current strength employed ranging between 100 and 150 milliampères, the average being about 125 milliampères. Symptomatically, it will be observed, she was cured by only three applications.

Case II.—Maria G., et. 34 years; married fourteen years; has had three children, and one miscarriage, in the fourth month, about two years ago. Her present trouble dates back to this abortion. Began to menstruate at the age of 17 years;

is now regular, but the amount lost is large and contains clots. Suffers from great dyspareunia since six months. Bowels regular, but defecation is painful. Has a vaginal discharge which is variable in quantity. Pain in lower abdomen.

Uterus anteverted (first degree), normal in size and shape, but almost immovable; no discharge; external os normal; cervix of normal length and shape; considerable firm exudation; on the right side, and more especially posterior, a somewhat sensitive mass the size of a fist.

Diagnosis.—Chronic pelvic induration following a cellulitis. Treatment.—Tinctura ferri chloridi, and galvanism locally.

December 16th: Galvanism, 150 milliampères, 3 minutes; negative pole intravaginal. Dec. 23d: Galvanism, 150 milliampères, 3 minutes; negative pole intravaginal. Dec. 23d: Galvanism, 150 milliampères, 3 minutes. Felt very much improved. No pain until three days ago, and then but very little. Menstruated for three days, rather freely for two. Has still considerable pain during defecation. Dec. 27th: Galvanism, 150 milliampères, 3 minutes. Some pain still, but not severe. Decided diminution in the amount and density of the exudation. Dec. 30th: Galvanism, 150 milliampères, 3 minutes.

Galvanism, 150 milliampères, 3 minutes.

January 3d: Galvanism, 150 milliampères, 3 minutes. Still improving. Exudation almost all gone. Uterus rather movable. Hardly any sensitiveness. Jan. 6th: Galvanism, 150 milliampères, 3 minutes. Still better. No pain at all now. With the exception of a little thickening in Douglas' pouch, absolutely nothing to be felt posteriorly. No sensitiveness. Uterus movable. Jan. 10th: Galvanism, 150 milliampères, 3 minutes. Feels well and looks so. Very slight pain for a short time yesterday. With the exception of a small hickorynut-sized mass on the right side, entire disappearance of the exudation. Jan. 24th: Examination shows the uterus to be perfectly movable. Exudation all gone. No pain on pressure perfectly movable. Exudation all gone. No pain on pressure. Feels perfectly well. No leucorrhea. February 12th: Uterus

in normal position and perfectly movable.

This case was a much more chronic one than the preceding, having existed fully two years, yet nevertheless a cure was brought about in a little less than one month, and that after only seven applications of galvanism. Of course rather high powers were used, but these were indicated by the age of the exudation. The symptomatic cure required only five séances

the patient after these feeling perfectly well and so considering herself. When recalling the duration of the induration, the rapidity of its absorption must be considered remarkable indeed.

Case III.—Appalonia Z., at. 33 years, married eight years; absolutely sterile. Dates the present trouble back to eight years ago, when, following a violent jump about three months before marriage, had a large loss of blood. All her symptoms followed this accident. Began to menstruate at 19 years; is regular, but suffers at times from dysmenorrhea. Complains of constant pain over the right ovarian region. Dyspareunia at times is great. Bowels costive. Some leucorrhea. Dysuria.

Uterus in normal position and of normal size and shape. No discharge. External os somewhat small. Cervix normal in size and shape. In the right broad ligament, running from the side of the uterus to the side of the pelvis, a firm, smooth, rather flat, unyielding, sensitive mass the size of the palm of the hand. Uterus rather movable.

Diagnosis.—Chronic pelvic induration.

Treatment.—Galvanism locally.

May 28th: Galvanism, 130 milliampères, 4 minutes; negative pole intravaginal. June 2d: Galvanism, 100 milliampères, 5 minutes; substituted positive for the negative pole. Pain absent for twenty-four hours, but has returned, though not so severe as formerly. June 11th: Galvanism, 75 milliampères, 5 minutes; negative pole again the active one. But little pain in the abdomen. Remained absent on account of an attack of acute rheumatism. June 20th: Galvanism, 100 milliampères, 5 minutes. Menstruation a little delayed, though for only two days; painless. Still has some abdominal pain, though not so severe as previously. Still has some burning over the right side and in the epigastrium. Dyspareunia gradually growing less. June 23d: Galvanism, 100 milliampères, 5 minutes. June 27th: Galvanism, 100 milliampères, 5 minutes. Exudation almost all gone; pain now very slight. July 2d: Galvanism, 100 milliampères, 5 minutes. Still has pain in walking or after a day's washing. July 11th: Galvanism, 85 milliampères, 5 minutes; positive pole intravaginal. Still complains of some pain over right side, but not severe. Feels much better every wav. July 21st: Galvanism, 90 milliampères, 5 minutes; negative pole intravaginal.

Menstruated for but one day. No pain at present. July 30th: Galvanism, 125 milliampères, 5 minutes. All exudation gone. Feels no pain at all, except a slight twinge on the right side after heavy work. August 4th: Galvanism, 90 milliampères, 5 minutes. September 12th: Galvanism, 100 milliampères, 5 minutes. Feels first-rate; only very slight pain occasionally after working hard. Absolutely no exudation. Is now able to use the sewing machine without a particle of trouble.

In spite of the fact that in this case the indurated mass had existed fully eight years, twelve applications of galvanism were sufficient to entirely dissipate it. The entire period covered by the treatment was but three and a half months, and had our patient not been so sensitive to the current, higher powers would have been given and the result brought about in a considerably shorter period of time. The range of current strength given was between 75 and 130 milliampères, this latter being only reached on one occasion. The average strength was about 100 milliampères.

Case IV.—Hermina H., et. 28 years, married twelve years; has had one child, and one miscarriage in the sixth week, the latter eight weeks before presenting herself. Began to menstruate at the age of 15 years. Her principal complaint was of great pain in the abdomen. Was very much emaciated, pale, feverish; face showed much suffering. Walking extremely difficult and painful. Entered the room with body bent forward, walking slowly and with the utmost care to avoid jarring the body. Her appetite is gone, sleep restless, and she is absolutely unable to do any work about the house. Defecation painful; passages contain a great deal of mucus. Dates trouble all back to her abortion.

Uterus retroverted (seeond degree), almost immovable, and pressed downward, surrounded by a firm, irregular, extremely sensitive mass which fills up the entire pelvis, the exudation existing in both broad ligaments as well as posteriorly in the utero-sacral ligaments and beneath Douglas' pouch. Considerable secretion from the external os, which is open. Uterus itself large and congested.

Diagnosis.—Pelvie cellulitis followed by induration.

Treatment.—Tinctura ferri chloridi, and galvanism locally.

January 29th: Galvanism, 100 milliampères, 3 minutes; negative pole intravaginal. Jan. 31st: Galvanism, 100 milliampères, 3 minutes. February 3d: Galvanism, 120 milliampères, 3 minutes. Pain all in all better; considerably less pain on examination. No apparent change in the amount or density of the exudation. Feb. 5th: Galvanism, 125 milliampères, 3 minutes. Decidedly better, very little pain. Feb. 10th: Galvanism, 125 milliampères, 3 minutes. Since last visit had considerable pain. Decided diminution in exudation on the right side, and much less pain on pressure. Feb. 24th: Galvanism, 150 milliampères, 3 minutes. Menstruated five days, with very little pain and with much less loss of blood than formerly. General condition improved. Expresses herself as feeling much better in every way. Exudation decidedly less, having diminished fully one-half; none now on the right side, much less on the left, mostly posteriorly. Feb. 26th: Galvanism, 75 milliampères, 5 minutes.

March 5th: Galvanism, 110 milliampères, 4 minutes. Not so well as previously; more pain. March 7th: Galvanism, 115 milliampères, 4 minutes. Again feels good; now hardly any pain; able to work about; pain only on the left side. March 17th: Galvanism, 140 milliampères, 4 minutes. Still a little pain, but then only during foul weather; absolutely none when the weather is fair. Continuous diminution in the exudation, which exists now only on the left side and posteriorly; less by one-half than at last examination. March 19th: Galvanism, 110 milliampères, 4 minutes. Slight recurrence of pain following a heavy washing, but then only on the left side and down the left thigh. March 24th: Galvanism, 125 milliampères, 3 minutes. Still some pain on the left side. March 26th: Galvanism, 150 milliampères, 3 minutes. March 31st: Galvanism, 125 milliampères, 3 minutes. Less exudation than at last examination. April 4th: Galvanism, 125 milliampères, 4 minutes. Only slight pain in the left side and leg. April 9th: Galvanism, 110 milliampères, 4 minutes. Absolutely no pain now; exudation now only of the size of a fist, on the left and not sensitive. April 16th: Galvanism, 100 milliampères, 4 minutes. Bowels now pretty regular; passages contain no muens since about three weeks. No lencorrhea. Exudation still of about the size of a fist. April 21st: Galvanism, 125

still of about the size of a fist. April 21st: Galvanism, 125 milliampères, 4 minutes. Still some back pain.

May 7th: Galvanism, 100 milliampères, 5 minutes. All pain now absent; complains only of some menstrual irregularity. A walnut-sized mass, firm, hard, insensitive, only remains in the left broad ligament, attached to the side of the uterus just above the cervix. Uterus still immovable, and undoubtedly bound down by peritonitic adhesions. May 12th: Galvanism, 110 milliampères, 5 minutes. Slight recurrence of pain following work on a sewing machine. May 16th: Galvanism, 100 milliampères, 5 minutes. May 21st: Galvanism, 100 milliampères, 5 minutes. Uterus slightly movable. Mass somewhat smaller than when last noted: not so round. Mass somewhat smaller than when last noted; not so round, Mass somewhat smaller than when last noted; not so round, but flattened; no longer sensitive. May 28th: Galvanism, 100 milliampères, 5 minutes. June 9th: Galvanism, 130 milliampères, 4 minutes. Still further diminution in exudation; no pain. Uterus at a somewhat higher level, though retroverted and fixed. June 23d: Galvanism, 150 milliampères, 3 minutes. Exudation still less; a little only posteriorly and to the left. Patient is now stout and rosy, the picture of health. Last menstruation for two days without pain. Is able to walk about and do her own work, washing, ironing, etc., without a particle of suffering. June 30th: Galvanism, 100 milliampères, 5 minutes. Absolutely no pain at any time. Continues to do her own housework without the least trouble. Continues to do her own housework without the least trouble. Suffers at no time, no matter what she may do. No dyspareunia, no leucorrhea. July 7th: Galvanism, 125 milliampères, 4 minutes. July 14th: Galvanism, 90 milliampères, 5 minutes. Uterus rather firmly adherent and fixed in retroflexion; all cellulitic exudation gone. General health perfect. No pain at all.

This patient has remained perfectly well and free from pain up to the present time (November 18th, 1891). Her uterus, however, has remained bound down so firmly that measures for its loosening were considered inexpedient. The case was a particularly severe one, in fact the amount of exudation was as great as has ever come under my notice, while the suffering of the patient was extreme. Its origin was in an abortion which had been treated by very rough instrumentation and afterward neglected. Hence it is not to be wondered at that

fully five months were required to bring about complete absorption of the exuded mass, and even then, from coexisting peritonitis, she was left with a crippled uterns. Under no other plan of treatment with which I am acquainted could a like result have been brought about so rapidly. The total number of applications was 27, ranging in strength from 75 to 150 milliampères, the general average being about 115 milliampères. Symptomatic cure was far more rapid than the pathologic, for she was free of all rational symptoms within two and a half months of the time of commencing the galvanic applications, looked well, and was able to do her own work.

Case V.—Rachel A., at. 23 years; married three years; never pregnant. Began to menstruate at the age of 16 years; always regular, but had great dysmenorrhea before the flow, more since marriage. Complains of back and abdominal pain, frequent painful micturition, and an abundant, persistent yellow vaginal discharge. Presented herself October 2d, 1886.

Uterus retroverted (first degree), normal in shape and size; free discharge of muco-pus from the os. Behind the uterns, and on the left side, an elongated, soft, sensitive body, probably a dilated tube. A fluctuating mass the size of a head felt on the right side, not sensitive.

Diagnosis.—Dilated left Fallopian tube; ovarian cyst, right. December 6th, 1887: Was operated upon about one year ago. Tumor removed from the right side, and ovary and tube from the left. Claims that she felt but slightly better after the operation, and now feels as bad as ever. Complains of pain in the back and abdomen. Menstruates regularly, just as normally as before the operation, and with the same pain. On the left side, through the abdominal wall, a sausage-shaped mass is felt, painful on pressure. Per vaginam an elongated, very sensitive, firm mass, attached to the left side of the uterus and moving with it. Mass the size of a cocoanut, very firm, somewhat irregular, and situated in the left broad ligament. No dyspareunia. Uterus anteverted (first degree).

September 11th, 1890: During all these years the exudation persisted unchanged, no plan of treatment at my command seeming to produce the slightest result, and with the persist-

ence of the induration her sufferings continued. Emaciated considerably, appetite capricious, sleep disturbed, unable to do her own housework; while her face betrayed signs of suffering, being drawn and anxious-looking. Began electrical treatment. Galvanism for five minutes, negative pole intra-uterine. The strength of current could not be noted, the meter being out of order.

September 18th: Galvanism again for five minutes, intrauterine, amount not noted : scar protected by rubber adhesive plaster. Sept. 20th: Galvanism, 200 milliampères, 3 minutes; caused considerable pain in the uterus about the intra-uterine pole. Says that the pains in the pelvis are decidedly less. Exudation does not seem so firm; examined after galvanization. Sept. 23d: Galvanism, 140 milliampères, 5 minutes. Suffers but little now with pain in the abdomen. Exudation soft and somewhat less. Sept. 27th: Galvanism, 160 milliampères, 5 minutes. Negative pole intravaginal. Feels decidedly better. Pain almost entirely gone, being felt at times only. Sept. 30th: Galvanism, 160 milliampères, 5 minutes. Expresses herself as being absolutely free of pain. October 4th: Galvanism, 160 milliampères, 5 minutes. Still feels perfectly well. Oct. 14th: Galvanism, 140 milliampères, 5 minutes. Exudation diminished from size of two clenched fists to that of a walnut. Oct. 18th: Galvanism, 120 milliampères. 5 minutes. Oct. 23d: Galvanism, 150 milliampères, 3 minutes. Oct. 28th: Galvanism, 130 milliampères, 3 minutes. November 1st: Galvanism, 150 milliampères, 3 minutes. Nov. 13th: Galvanism, 150 milliampères, 3 minutes. Exudation still further diminished, but little remaining now. Menstruates without pain, something from which she formerly suffered greatly. Nov. 18th: Galvanism, 160 milliampères, 3 minutes. December 2d: Galvanism, 150 milliampères, 3 minutes. No pain; all exudation gone, a little thickening alone being felt in the left broad ligament. Dec. 16th: Galvanism. 150 milliampères, 3 minutes. Patient now looks and feels perfectly well. Suffers only from a hernial protrusion through abdominal scar. Absolutely no sign of exudation. Uterus perfectly free and movable.

February 21st, 1891: Patient has been working hard of late, lifting, hauling, etc. Since two weeks recurrence of pain in

the abdomen. Examination shows a mass of exudation on the left side the size of two fists, exactly under the region of pain. She claims she felt perfectly well, and, presuming on this, began to work exceedingly hard, with the result of a return of her previous trouble.

March 3d: Galvanism, 110 milliampères, 3 minutes; negative pole intravaginal. March 5th: Galvanism, 110 milliampères, 3 minutes. All pain gone; exudation somewhat less and much softer and less sensitive. March 7th: Galvanism, 75 milliampères, 5 minutes. Expresses herself as feeling much better every way. March 14th: Galvanism, 100 milliampères, 4 minutes. Mass almost gone; originally of the size of a cocoanut, it is now of about the size of a walnut. Feels perfectly well. General condition excellent. Now works about again without pain. March 28th: Galvanism, 100 milliampères, 4 minutes. Exudation again all gone. April 4th: Galvanism, 125 milliampères, 4 minutes. Absolutely no sign of exudation. Uterus in normal position, etc., and perfectly movable. Feels and is perfectly well. July 11th: Remains perfectly well. Absolutely nothing to be felt on bimanual palpation. November 24th: Has remained well and free of pain. Examination shows absolutely no sign of anything wrong in the pelvis, parts being perfectly normal.

This case is interesting in many respects. She had been under observation for fully five years, having first presented herself as long ago as October 2d, 1886. Treatment was unavailing, and finally a laparatomy was performed. Even this failed to cure, was followed by a cellulitis terminating in induration, which continued unchanged almost four years in spite of treatment directed to its relief. A resort to galvanism was more fortunate, and now the patient is a well woman. Presuming on her condition, she returned to her former habits of hard work too soon, and paid the penalty by a recurrence of her trouble. However, this in turn was quickly relieved, and up to the time of this writing (November 24th, 1891), over seven months after the last application of galvanism, she has no indications of a relapse, even though she works very hard. It is not claimed that galvanism alone would have cured her primary trouble, but in connection with surgery, as an addendum to the knife, the happy result was brought

about. Operation alone proved insufficient. Three months with a total of sixteen applications sufficed to cure an induration which had existed four years, the strength of current varying between the limits 120 and 200 milliampères, with an average of about 145 milliampères. The recurrence disappeared far more rapidly, only six sittings running over a period of one month, with a current strength varying from 75 to 125 milliampères and an average of 105 milliampères, being found necessary to bring about the probably permanent disappearance of the cellular exudation. This case exemplifies foreibly one fact: the rapidity with which recent indura-tion is absorbed under this plan of treatment, as compared with that which is older, which is slower to vanish. It will also be noted that for the primary attack at first higher powers were employed than are recommended. The explanation for this resides in the fact that the plan was still in the formative stage, and I had not yet settled in my own mind the proper current strength to resort to in combating these cases.

And so I might go on quoting case after ease, but always with the same result. In closing let me only ask a fair, unbiassed, impartial trial of this method of relief in this disease; and there is no doubt that my claim, that for uncomplicated pelvic induration in the female there is no plan of treatment which equals galvanism in the rapidity and certainty of cure, and this without danger to the patient and almost without pain, will be echoed by all.

126 East 82D Street.

## PREMATURE LABOR AND THE NEW-BORN CHILD.1

HENRY W. BETTMANN, M.D., Cincinnati, Ohio.

(With seven charts.)

Among all the complex phenomena of life none is more interesting than that wonderful series of changes in the infant which accompanies its birth.

<sup>&</sup>lt;sup>1</sup> Paper read before the Society of American Physicians in Berlin, July 30th, 1891.

The mother, whose circulatory and respiratory capacity has for many weeks been tested to the utmost, finally, through some unknown mechanism, rebels against the burden laid upon her and casts off the load. There enters into the world an independent living being.

Life has been defined as adaptation to surroundings. And the new being, without special preparation and in the course of a few hours, is precipitated into surroundings whose needs and conditions of life differ entirely in number and nature from those from which it has just emerged. No crisis of life is equal to this of birth.

Suddenly deprived of the supply of oxygen circulating in the maternal placenta, it is, at one stroke, thrust upon its own resources for the purification of its own blood, and for the first time the nerve cells in the medulla are roused to action, the chest moves, and the lungs expand to receive the outside air.

Its old system of circulation suddenly becomes inadequate to meet the demands of its new life, and the expanding lungs call for their supply of blood. The placental circulation is to be exchanged for a no less complicated pulmonary one. Almost as if by magic the ductus Botalli collapses, a moment later the foramen ovale becomes extinct, and the new requirements are met.

Thus the child adapts itself to new conditions. The crisis is passed and it is enabled to continue its existence.

But the real battle for life is yet to be fought. Separation from the placenta means not only a loss of oxygen, but also a loss of food, and whatever nourishment the child is now to supply to the cells of its body it must prepare for them itself out of the raw material sucked from the maternal breast.

Robbed of its oxygen and of its food, it is at the same time deprived of its shelter. The warmth of the uterus is exchanged for the comparative coldness of the outside air. From a temperature of  $100^{\circ}$  F. it is thrust into an atmosphere of  $68^{\circ}$  or  $70^{\circ}$  F., and thus at once put upon its own resources for the maintenance of its body heat.

Heat, food, oxygen, the three prime necessities of life, and for these the new-born child is henceforth to depend wholly upon itself. As in all struggles, so here, the outcome depends largely upon the preparation. If the child comes well armed, with circulatory, respiratory, and digestive apparatus normally developed, the chances of its survival are strong. If it is puny, with shrivelled skin, ushered into the world before its time, the chances of life are correspondingly small.

The average weight of children at birth, and the fluctuations in weight during the first week of life, have been subjects of considerable interest to medical writers, and observations are numerous and give fairly uniform results. To add a contribution to the subject from an American standpoint,

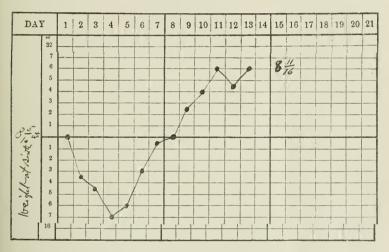


Chart 1.

I, with the aid of my associates, took occasion, during the winter of 1890-91, to weigh all the new-born infants in the Cincinnati Hospital, and to continue the weighing daily for two to three weeks after birth.

By these means I was able to collect seventy-five cases of healthy children, breast-fed by healthy mothers, and thus gain an estimate not only of the average weight at birth, but also of the normal fluctuations in weight during the first few weeks of life. The results agree in the main with those of European authors, but differ in a few points not unessential.

The average weight of all the infants was seven pounds five ounces (3,324 grains), of those of the primiparæ seven

pounds six ounces. This greater weight on the part of the infants of primiparæ is opposed to the general law that the weight of children increases with the number of gestations of the mother. It agrees with the law in so far that the average weight of the ten whose mothers had borne more than three children was seven pounds eight and three-tenth ounces.

The processes immediately following birth are not without effect upon the weight of the infant. Urine and meconium

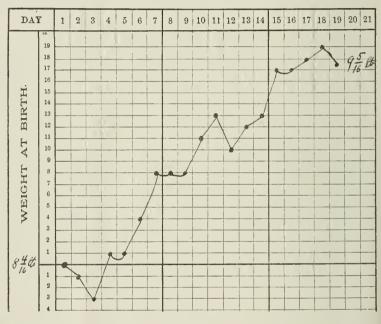


Chart 2.

are soon voided, and the vernix caseosa is removed before or during the first bath. The diminution in weight occasioned by these losses is, as a rule, not regained by the infant until several days after birth.

Charts Nos. 1 and 2 may be taken as types of the ordinary fluctuations in weight during the first few weeks, *i.e.*, a loss during the first few days, then a gradual but constant gain. The primary loss may be so severe that it may seriously affect the development of the infant during its first months of life.

Budin 'reports a case where the original loss was 13.3 ounces (380 grammes) in two days; another where during the first twenty-four hours the infant lost 17.2 ounces (490 grammes)!

Chart No. 3 illustrates a case where the original loss was greater still, amounting to eighteen ounces during the

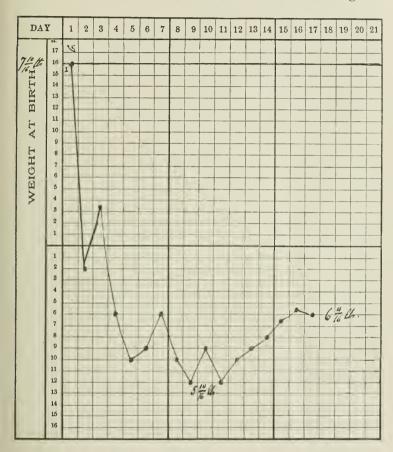


Chart 3.

first twenty-four hours and twenty-eight ounces during the first nine days. In this case the excessive loss was due to the enormous amount of vernix with which the child was covered, and which was included in the original weight. Not always, however, does the infant lose during the first few days—the vast majority of German writers to the contrary

notwithstanding—and the birth weight may remain the lowest. Bouchaud, in tifty-four cases, found no primary loss in five. Of my seventy-five infants, seven, or nearly ten per cent, show no initial loss. Budin acknowledges also that there may be no initial loss, and tries to explain the fact by supposing that the infants were weighed originally after emptying their bladders and rectums, and that their mothers were multiparæ whose breasts were full of milk. As three of my seven cases are primiparæ, the hypothesis of Budin scarcely suffices.

Chart No. 4 illustrates one of the cases and shows remarkable development on the part of the child, similar in many respects to that of the lower animals (cats, dogs, rabbits, pigs); for in the lower animals 2 (except the guineapig 3 4) the young begin to gain almost from birth and double their original weights inside of a week or two. The new-born rabbit, in fact, usually doubles its weight in four or five days.

The laws which prevail may be summed up in a few words. The birth weight diminishes during the first two or three days, then begins to increase at the rate of one to three ounces daily. Some writers of repute, and among them no less a one than Winckel, try to associate in time the first increase of weight with the falling off of the umbilical remnant; but the relation is wholly fanciful in my mind, and denied by the large majority of observers. The heavier the child at birth the less is it likely to lose. Thus boys lose less than girls and gain more rapidly.

Writers are not agreed as to the duration of the initial loss, estimates ranging from two to five days; all uniting in giving the average in ounces as five and a half to seven, though, as shown above, this may vary within wide limits, becoming excessive on the one hand or absent entirely on the other.

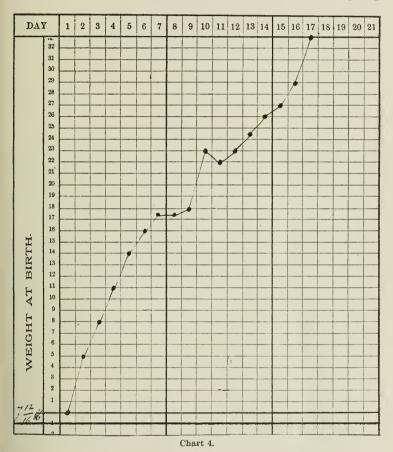
In my own cases the average loss is almost exactly six ounces, the duration two and a half days. But averages in this, as in other matters, are somewhat misleading, and we naturally expect a healthy child to gain during the third day. Toward the end of the first week the original weight is regained.

In my seventy-five cases, at the end of the first week there is an average gain of one and two-third ounces, and this is

<sup>&</sup>lt;sup>1</sup> The small figures refer to Bibliography at the end of the article.

increased at the end of the second week to 5.9 ounces. From this time on gain should be uninterrupted. At the end of the first month weight is increased by one-third, doubled in six months, and tripled in a year (Henoch).

So much for figures and details. It is scarcely necessary at this day to insist on the regular and systematic weighing



of infants. Where the sufficiency of the mother's secretion is in question, weighing the infant immediately before and immediately after nursing establishes the amount of nourishment obtained. When the infant appears not to be gaining strength, recourse to the scales at once establishes the fact, and a wet-nurse or artificial feeding can be employed before the

strength of the infant is markedly vitiated. I may say without exaggeration that the scales are as essential to the correct estimation of the progress of an infant as the thermometer in the estimation of a case of typhoid fever. Both can be dispensed with and the physician rely on his own unaided judgment. With them he has in his possession a most perfect and unfailing adjuvant to his own powers.

Chart No. 5 shows clearly the direct relation between the health of the infant and the method of feeding, and shows the value of the scales in suggesting a *timely* change of diet.

But during the past few years special interest has centred about the *premature* or *immature* infants. The present activity in searching out new remedies (a reaction against the

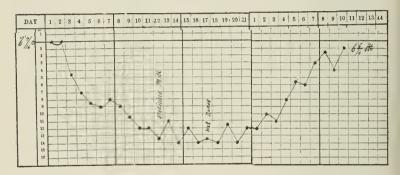


Chart 5.

nihilism of forty years ago) has found expression also in the care bestowed upon the unfortunate infant born before its time; and no efforts have been spared to surround the weakling with all those conditions necessary to bridge it over its first few and precarious weeks.

So in 1866 Credé established his double-walled Warme-Wänne in the Maternity at Leipzig; at Moscow and St. Petersburg similar methods were adopted, and in 1880 Tarnier introduced his incubator, or couvense, into the regular practice of the Maternité of Paris. And these devices have done much to change the aspect not only of the rearing of the premature child, but of other grave questions immediately depending upon the success of such efforts. At first sight there seems to be no very close relation between the incubator

for premature infants on the one side, and Cesarean section, craniotomy, induction of premature labor on the other; but the connection is radical, and during the past twenty years has aroused the attention of all obstetricians.

In fact, it was the uniform fatality attending Cesarean section in England which first led Cooper, in the latter half of the eighteenth century, to induce premature labor in a case of contracted pelvis. From that time up to 1869 the procedure was applauded and practised by many; condemned and repudiated by others, its position was never clearly established.

In 1870 Spiegelberg<sup>5</sup> attempted by one effort to overthrow the reputation of the induction of premature labor as a justifiable obstetrical procedure for contracted pelvis. He published a record of all cases of contracted pelvis delivered in his clinic between 1865 and 1869, to the number of 307. Of the cases left to Nature, 2.4 per cent died and 15.7 per cent of their infants. Of those in whom premature labor was induced, 11.2 per cent died and 61.9 per cent of the children.

But conclusive as these statistics appear at first sight, they did not long remain unchallenged, and Prof. Dohrn, then at Marburg, appeared in 1874 as a strong supporter of premature delivery. He repudiated Spiegelberg's figures as unscientific, there being no means of comparing the two classes of cases—i.e., the spontaneously and artificially delivered ones—and established statistics of his own in their stead. He showed that of 18 women who, with contracted pelves, had previously borne 29 children spontaneously, 45 per cent had a severe puerperium and 90 per cent of their children died; while in 18 premature deliveries, performed on the same women only, 39 per cent had a severe pnerperium, while 56 per cent of the children were saved.

Dohrn during the last International Congress has extended these figures and brought them into the antiseptic period of midwifery. From figures of Wyder, Kehrer, Leopold, and himself he has collected 271 cases of premature delivery for contracted pelvis in which the mothers had also been delivered spontaneously at some previous time. Of the mothers 16, or 5.9 per cent, died, while 60 per cent of the children were saved. Of the children delivered from the same mothers at term, only 29 per cent were saved. The maternal mortality

of 5.9 per cent seems very high, but the estimate is scarcely justified by figures given by other authors, and in the hands of Winckel, Sabarth, Häcker, Fehling, Budin, Tarnier, the maternal mortality is practically nil!

A year ago Ahlfeld published in the Centralblatt für Gynäkologie a report of 111 cases of induction of premature labor for contracted pelvis performed under his direction; and of these 111 mothers, only 1 died, and she as the result of excessive pressure. So with careful asepsis we can expect the mortality attending this procedure to disappear entirely, as it has already in the hands of some operators.

Turning our attention from the mothers to the children, we find that what asepsis has done for the one the various incubators have done for the other. Even Dohrn in 1874 says that "no practitioner would wilfully induce premature labor as early as the twenty-eighth week with any idea of saving the child," and adds, with calm self-assurance, that such reported cases, when successful, are probably mistakes in counting the duration of pregnancy! But in 1888 Credé' published a list of all premature infants born in the Leipzig Klinik since the introduction of his Warme-Wänne in 1866. During these twenty-two years the mortality of children born at term was  $5\frac{1}{2}$  per cent. The mortality of children born prematurely was 18 per cent. Excluding the children who at birth weighed less than three pounds five ounces, of 653 premature children 85 per cent were saved.

But the results obtained by Tarnier in the Maternité of Paris are better, especially for the very weak. Of children born at eight and one-half months, 95 per cent survived; of those born at eight months, 85.7 per cent survived; of those born at seven months, 63 per cent survived; of those born at six months, 30 per cent survived. So in the light of these figures Prof. Dohrn must retract his statement; must acknowledge that considerable hope gathers about the child born at twenty-eight weeks (as 30 to 63 per cent of them survive, which only thirty years ago was as good—or a better—result than was obtained for the general average of premature children).

Budin, in a clinical lecture in December, 1887, called attention to two currents flowing in opposite directions on the

subject of contracted pelvis—the German current directed to Cesarean section, that of the French directed to induction of premature labor. With the best modern methods the mortality of Cesarean section has been wonderfully reduced. The best statistics I can find are those published by Caruso, of Naples, in June, 1888. One hundred and thirteen cases were collected of Cesarean section, performed by the modern conservative method, for contracted pelvis. Excluding two fatal cases in which the operation was contra-indicated, the mortality is 18.6 per cent. Even Leopold's mortality is 18.6 per cent.

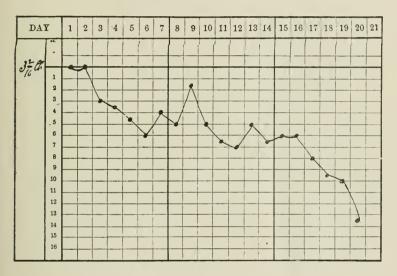


Chart 6.

tality out of 23 cases is 8.6 per cent, and ordinary operators cannot hope to attain such results.

If, then, we were to contrast the respective advantages and disadvantages of the two procedures, we would have: On the side of Cesarean section 5 mothers out of 27 die, while 90 to 95 per cent of the children are saved. Not any of the mothers who survive the operation can be called *cured*, as the dangers due to the uterine suture are not by any means slight, and have been suppressed in the past rather than exaggerated. On the side of premature delivery nearly all the mothers are saved, while 30 to 95 per cent of the infants survive, according to the time of delivery.

Nor must you suppose that an incubator is beyond the reach of physicians in private or even country practice, or that special skill and experience are required in rearing the prematurely born. The incubator used in the Cincinnati Hospital was built for Dr. W. H. Taylor on Tarnier's model at a cost of ten dollars. The rules for the care of the infant are simple. The temperature in the incubator should be kept constant at 32° C. (but may vary between 30° and 35° C.). The infant should suckle, if possible, otherwise it should be fed with a spoon or medicine dropper or stomach tube. It should be swaddled in soft flannel, as the temperature un-

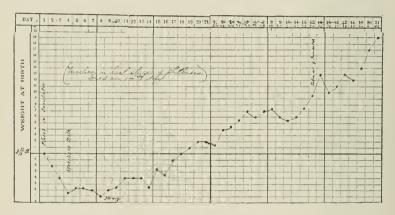


Chart 7.

der the garments is 2° to 3° C. higher than without, and as the child is thus protected against possible fluctuations in temperature due to carelessness or accident. Our experience with poorly developed infants at the Cincinnati Hospital during the winter of 1890-91 was not large, embracing only 23 infants who at birth or shortly afterward weighed less than six pounds. The results show, however, how good a chance for survival even the weaklings have under modern careful attention:

10 infants weighed between 6 and 5 lbs. All survived. 8 " " 5 " 4 " 7 " 4 " 4 " 3 " 2 " 1 weighed  $2\frac{1}{1}\frac{1}{6}$  lbs. at birth and lived 11 days.

Thus of 23 infants 19 survived, or 82.6 per cent. Of those

between six and four pounds,  $94\frac{1}{2}$  per cent were saved. (See Charts No. 6 and 7 as types.)

This paper would not be complete without reference to an entirely new solution to the question of moderately contracted pelvis proposed by L. Prochownick, of Hamburg, in August, 1889. Prochownick tried the novel experiment of stunting the growth of the fetus in utero by starving the mother, or, rather, by placing the mother on the ordinary diet for diabetics. His first patient had been delivered of four children: two prematurely, one by version, one by perforation. All the infants perished. Towards the close of the fifth pregnancy the patient was placed on the strict diet, and was delivered at term of a healthy infant weighing five pounds three ounces, with adipose layer practically wanting, and with very movable skull bones. The infant developed rapidly and normally. Encouraged by his success, he repeated the experiment in two similar cases, and in both the infants born were thin, had movable skull bones, and thrived perfectly. Thus three mothers who had borne eight dead children were enabled by these means to rear living offspring. Prochownick has found imitators, and in March, 1890, A. v. Brehm 13 reported a fourth successful case in the St. Petersburg Medicinishe Wochenschrift.

This departure of Prochownick is so novel, is based on such rational physiology, and has been so signally successful that it merits not only the general attention of the obstetric world, but also general imitation in appropriate cases.

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#### PERIODICAL INTERMENSTRUAL PAIN.1

BY

## CHAUNCEY D. PALMER, M.D., Cincinnati, O.

I have been somewhat at a loss to give a proper caption to this short article, because cases of this kind have not as yet, so far as I know, been named.

Every one of you must appreciate that this is an attempt to name an exceedingly uncommon affection. I have seen and had under my care for months at a time, in the last ten years, five to six cases, distinctly pronounced, of what I would here call "periodical intermenstrual pain."

The symptomatology of these cases, as expressed in a few words, has been about as follows:

At a certain definite time following menstruation, generally about the middle of the intermenstrual periods, continuing from two to nine days, varying in length of time in different cases, there have been attacks of pain, located mostly in either ovarian region, sometimes on one, again on the opposite side (in one case usually alternating on the special side affected)—certain characteristic pains, irregular in severity and duration, generally (not always) intermittent, coming on at night as well as during the day, uninfluenced by motion of the body, and unattended with any of the febrile phenomena.

In three of these four cases a most careful digital and

<sup>&</sup>lt;sup>1</sup> Read before the Obstetrical Society of Cincinnati, October 8th, 1891.

bimanual exploration, repeatedly made, has failed to detect any appreciable alteration in size, structure, or position of either ovary. My first case, coming to me at least ten years since, was an unmarried lady, a teacher by occupation, who presented the appearance of one in good health. She was of good color and nutrition; her general health was excellent. Menstruation was normal as to time, quantity, duration, and comfort, and, except for the intermenstrual pain, she was completely well. Of German descent, frugal and temperate in all her habits, faithful in the discharge of her obligations, she never missed being present at her school, except occasionally on certain months when she was obliged to absent herself for a day or so on account of the pain referred to. I have no written record of this case, and cannot recall the exact number of days following menstruation during which the pelvic pain occurred. She was a virgin, as stated, and no physical examination was made. Partial relief had followed treatment, when I lost sight of the case.

In another instance, a married lady aged 28, with one child nearly 10 years old, stated to me in 1886 that she had had this characteristic intermenstrual pain since her delivery. The attacks had occurred in from twelve to fourteen days after the beginning of menstruation, generally manifesting themselves for from one to two hours at a time, alternating on different sides. They compelled her to go to bed, and were followed by an abdominal soreness. The pains were greatly modified and ameliorated by treatment, but not entirely relieved. She would describe her pains as like parturition pains at their inception. During the year of my withdrawal from practice (for reasons which you all know) she again became pregnant, and aborted at the end of the third month, from some unavoidable cause, which was followed by an attack of pelvic cellulitis. When I had resumed practice I was called, and found an inflammatory trouble of the right broad ligament, also implicating the surrounding pelvic peritoneum. She was confined to bed for more than two months. Seemingly, the pelvic trouble was passing into a pelvic abscess, and I presumed that an abdominal section would be needed. Finally, however, it resolved itself without any suppuration, and now very small traces of the same can be detected. Her gen-

eral health has never been better. Menstruation is normal in all regards, and the attacks of the periodical intermenstrual pain are milder, shorter, and less often.

The third case is that of a married lady, aged 30, the mother of two children. She has suffered for two years or more, since an abortion. The general health is good; menstruation normal; slight leucorrhea. The uterus is in normal position, the cervix slightly eroded. No appreciable change could be detected in either ovary.

The attacks of intermenstrual pain in the last six months have been as follows: The first came on eighteen days after beginning of menstruation, and continued irregularly for ten days; the second came on sixteen days after beginning of menstruation, and continued irregularly for seven days; the third came on fifteen days after beginning of menstruation, and continued irregularly for nine days; the fourth came on seventeen days after beginning of menstruation, and continued irregularly for eleven days; the fifth came on seventeen days after beginning of menstruation, and continued irregularly for eight days; the sixth came on seventeen days after beginning of menstruation, and continued irregularly for nine days—average for six months (=sixteen and two-third days after beginning of menstruation), nine days. This patient is still under my observation.

Very naturally any inquiring mind would attempt to form some satisfactory solution of the pathogenesis of this anomalous group of symptoms.

All ovarian pain not associated with, or dependent upon, some structural change in either organ is really neuralgic in character—an oöphoralgia. Intuitively, almost, we attempt to discover the existence of some structural lesion to explain the symptomatology. Finding such, we rest content with the diagnosis made. But is it reasonable to presume that structural changes necessarily must manifest themselves in such a way that a skilled touch—a tactus eruditus—will reveal the same?

Oöphoritis is plainly a quite common disease and manifests itself as an inflammation, varying not only in activity and duration, but in the structures involved. For instance, there is the (a) peri-oöphoritis, or a pelvic peritonitis, local-

ized to the ovarian serous envelope; (b) the interstitial or parenchymatous variety, involving the ovarian stroma; and (c) the follicular variety, involving the Graafian follicles.

An oöphoritis, acute or chronic, insidious from the start, may implicate any one or all of these tissues, and no doubt, in the majority of cases, leads to secondary changes in and about the organ, with formation of peri-ovarian adhesions, and with thickening and hardening of the cortex or of the follicles. Ovulation is not stopped. It occurs as before in health, at proper times, but the development and the bursting of the follicles are hindered, and, in consequence, made painful—a morbid ovulation.

It may be suggested that such attacks are purely neurotic. It is perfectly rational to believe, from a medical standpoint, that the ovary is subject to neuralgia as other viscera of the body. Such an explanation would seem plausible at first sight. But, if these attacks of pain are really neurotic, why are they not present also at the menstrual time, at least then the more frequently and severely—a time of especial susceptibility to pelvic pains? Why limited exclusively to a certain definite time of the intermenstrual period?

A greater plausibility, it seems to me, rests upon a theory of the malarial character of the affection. A consideration of the periodicity of the affection is the strongest argument of such a theory.

Such a view I was disposed at first to entertain, but soon abandoned it after finding that these periodical attacks of pain were totally uninfluenced by the internal administration of the most potent antiperiodic. Any such patients may be subject to chronic malarial disorders, but clearly any malarial poison cannot be a potent factor in the production of this symptomatology.

None of my own patients were absolutely sterile. The first case reported was unmarried. The second case had one child, antedating any such physical disorder, and after ten years again became pregnant. Possibly there was a relative sterility in her case.

There is a great paucity of literature on this subject. Olshausen, who has written a most excellent volume on the diseases of the ovaries, devotes one small chapter to oöphoralgia.

Oöphoralgia, a neuralgia of the spermatic nerves, belongs to the same category as intercostal neuralgia, mastodynia, migraine, and other visceral neuralgias. It is a frequent accompaniment of hysteria. The actual offending cause is oftentimes very obscure, some contending that some organic disease is always the etiological factor.

Olshausen, in his chapter on chronic oöphoritis, mentions that Kugelmann refers to a frequent symptom of pain, felt temporarily in one or both hypochondria, during the second week after menstruation, and that he speaks of intermenstrual dysmenorrhea. Many such patients are sterile.

Priestley, in Reynolds' "System of Medicine," refers very briefly to this kind of a trouble.

H. C. Coe, of New York City, in an article on the malarial element of oöphoralgia, has intelligently written of cases somewhat like mine.

The following explanation of these anomalous cases appears most satisfactory to me:

The ovary is continually undergoing alterations in size and shape, in a certain sense degenerating, during its functional activity of ovulation. It becomes difficult, therefore, to define the exact line of demarcation in structure between the physiological destruction of tissue and the varied pathological changes following inflammations of its various tissues.

The time of the occurrence of ovulation is usually at the height of menstrual congestion, but intermenstrual ovulation is not infrequent.

Any circumscribed induration of the cortex or stroma of either ovary, insignificant anatomically speaking, creates pressure on the follicles, including the nerve filaments, and may be the cause of local and reflex pains, out of all proportion to the actual disease. In one ovary, or in one case, certain interstitial changes, in another follicular alterations, may predominate, leading to hyperplasia or cirrhosis of the organ, possibly cystic degeneration. The new-formed, condensed tissue may be largely limited to the surface of the organ, so that the tunica albuginea may become so dense and so thick that the function of the organ may be permanently interfered with. The surface of the ovary may be smooth or rough. Now, the

<sup>&</sup>lt;sup>1</sup> American Journal Medical Sciences, April, 1891.

thickened, hardened cortex of an involved ovary may prevent the ovarian structure from enlarging under the influence of the menstrual hyperemia. No two ovaries, normal or abnormal, are exactly similar in appearance. No gynecological tactus eruditus is so delicate as to enable one to estimate always when structural alterations commence and when functional disorders cease. We are cognizant of gross abnormalities only.

At this time it is but proper that I should make mention of the therapeutic measures which have been employed

by me with most benefit in these cases.

Considerable dependence has been placed upon the most active so-called alterative remedies—the mercuric chloride, the potassium iodide, the ammonium chloride, and more particularly on the sodium chloraurate, administered three times a day, especially during the absence of pain.

Local galvanization, with the anode to the vaginal vault, behind and to either side of the uterus, according to the ovary especially affected, occasionally changing to the secondary faradic current—the current of tension—has been of signal

service.

Of course all manifest local disease, as well as errors of general health, require attention, according to the kind and degree of the morbid complication.

I have attempted to avoid, when possible, the administration of any anodynes in any way, believing that the use of such remedies does harm ultimately, although pain may be

temporarily relieved thereby.

The free use of the bromides during the days of intermenstrual pain appears to me as more rational, if not more curative.

Counter-irritation, before and during the periodical attacks of pain, is somewhat efficacious.

Finally, after a failure following all medicinal and hygienic treatment faithfully tried, oöphorectomy is clearly indicated in bad cases. We all must realize that oöphorectomy has been, and is now, an overdone operation—done oftentimes without sufficient justification, as proven by the specimens of ovaries obtained and presented, and also by the too frequent return or continuance of pain, which seemingly was the chief

cause of its performance. Foreign as this is to the subject of this paper, I think it but proper to say here that when the operation of oöphorectomy is done for nervous symptoms, general or local, or for painful menstruation, without at the same time any manifest alteration of the ovarian structure (as detected by touch or bimanual exploration, with or without anesthesia), as a rule that patient is subjected to unnecessary risks and expense without any fair relief of symptoms. She is none the better.

## VAGINAL OÖPHORECTOMY:

ВΥ

#### HENRY T. BYFORD, M D.,

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It is the prevailing opinion that vaginal section for the removal of diseased ovaries and small ovarian tumors is a difficult operation and one fraught with indefinable dangers. My experience has been such that I am forced to the conclusion that for pelvic conditions this operation is, when available, safer than abdominal section, be the trouble what it may. In sixty two cases I have had but one death, twenty-seven being vaginal hysterectomies with one death, and thirty-five vaginal oöphorectomies without a death.

The operation being so safe, I would prefer it when practicable, for the purpose of avoiding the abdominal incision with its danger of hernia, if for no other reasons; and it is only lately that we are beginning to find out how very frequently such herniæ result. I have elsewhere enumerated the advantages of the method,<sup>2</sup> and in this communication deem it sufficient to mention the practical results.

<sup>&</sup>lt;sup>1</sup> Read before the Chicago Gynecological Society, December 18th, 1891.

<sup>&</sup>lt;sup>2</sup> AMERICAN JOURNAL OF OBSTETRICS, vol. xxi., April, 1889.

What I wish now to illustrate is that the difficulties are, in proper cases, easily surmountable, and I cannot better do so than by describing a recent test case from practice.

Miss B., unmarried, age 38 years, consulted me for long-standing pelvic trouble. She had retroversion with adhesions, an elastic tumor, the size of an orange, adherent low down to the left broad ligament, a small, hard nodule in the recto-uterine pouch, and general induration of the pelvic floor.

I operated at the Woman's Hospital November 26th, 1891, assisted by Drs. J. T. Binkley and Anna M. Braunwarth. After introducing vaginal retractors and drawing the lower end of the retroverted, adherent uterus up against the anterior vaginal wall by means of a strong thread passed through the cervix, I made a median line incision in the posterior vaginal fornix just below the cervical junction. After penetrating for about half an inch into connective tissue, I put down the scissors for fear of cutting the rectum, forced my finger end straight back along the posterior uterine wall, and kept pushing further and further into this tissue until I reached the fundus. Pushing on beyond the fundus, I at last broke into the free peritoneal cavity. Sweeping my fingers down the uterine body on either side, I stripped it from the sacro-uterine ligaments, the adhesion being about as firm as any I have ever separated. I next came upon a cyst, the size of a small orange, firmly adherent on the posterior surface, which burst before becoming loose and then came away without a pedicle. It proved to be a large cystic ovary with remains of a hematoma. Next I found the tube lying across the bottom of the pelvis, having a fibroma the size of a hickorynut attached to it near the utcrine horn, and lying in the bottom of the Douglas cul-de-sac under the track I had made into the peritoneal cavity. In separating the tubal adhesions the meso-salpinx tore instead of separating, leaving the tube attached only at its uterine end. After ligaturing and removing these, I could with difficulty distinguish the right ovary, although it was twice its original size. I had to work my finger tips into a solid bed of adhesions. The enlarged ovary and thickened tube, the latter containing a small quantity of blood, were, however, pulled down

intact, ligatured, and removed. After washing out the clots with very hot water, I found the blood oozing from the bottom of the pelvis, which was a mass of raw tissue, at the rate of about an ounce a minute. Dry sponging and very hot water did not help matters. I then sponged the pelvis dry, and, taking six small sponges on hemostatic forceps, passed them in, one after another, and held them pressed against the bleeding surfaces for several minutes. This I did three times, greatly diminishing the hemorrhage, but not preventing it from again gradually increasing in quantity. then applied a sort of Mikulicz drainage or iodoform-gauze tampon. Taking a strip of gauze an inch and a half wide, I tucked the end in the pelvic cavity, just under the left stump, pressing successive loops firmly against the oozing tissue until I had a layer about an inch thick. I then packed the cul-de-sac similarly, and then the space under the right stump, and stuffed a little more into the vagina. Before introducing the gauze I had sewed up the vaginal incision next to the cervix with three catgut stitches and one of silkworm gut, so as to leave room below them amply large enough for my forefinger and the strip of gauze. The bleeding seemed to stop, and the pulse, which was 120 when she was put to bed, came down to 84 within an hour.

Here the operation was about as mutilating as it legitimately could be, and the conditions were quite difficult to manage, yet the means at hand were adequate to the end and no accidents occurred.

To have reached by abdominal section these tissues at the very bottom of the pelvis, and some of them buried deep in connective tissue under the adherent, retroverted uterus, would have required a good-sized incision, considerable friction of the intestines, and possibly a Mikulicz drainage from above. The difficulties must have been as great and the danger greater.

With regard to the diagnosis, this operation requires some sort of a diagnosis beforehand. Yet even when I am not certain of my diagnosis I make an exploratory incision through the cul-de-sac of Douglas and find out by direct palpation. Such an intrapelvic palpation is one of the most satisfactory and comforting things imaginable; a perfect diagnosis

is, in ordinary cases, made before anything has been done except the making of the vaginal incision. This can be closed without damage and the patient can be about in a few days. I wonder that surgeons will treat obscure cases so long and so unsatisfactorily when they have a means of diagnosis so simple, so harmless, so adequate, and so easy of execution. Although my regular method in vaginal hysterectomy is to separate the uterus anteriorly first, yet I often precede it by an exploratory incision in the Douglas' cul-de-sac. In one case I made an exploratory incision in the cul-de-sac, and found about the same state of affairs as in Miss B., just described, and decided not to operate. The patient was on her feet in less than a week. Had I understood the case as I do now I should have operated.

There are a few things to be taken into consideration in deciding as to the propriety of the vaginal method.

- 1. Is there space enough in the vagina? I have removed the uterus from virgins who had passed the menopause, and diseased and adherent appendages from virgins of various ages, yet have been obliged to resort to perineal incision in only one case, moderate rapid dilatation having been sufficient in all the others.
- 2. Can the diseased parts be reached? In cases without recognizable adhesions I decide this by the position and mobility of the uterus. When the uterus is retroverted, or the cervix can be pulled forward and the fundus easily forced down into the cul-de-sac of Douglas, I feel quite sure that the ovaries can be pulled down in the vagina and be safely removed. When the cervix is held far back, the fundus forward, and the latter cannot be readily forced down into the cul-de-sac, I prefer the ventral incision as the most direct route.
- 3. Is there danger of wounding adherent intestines in the dark? If the uterus be partly or completely retroverted and the appendages adherent to the sacro-uterine ligaments or to the broad ligaments down near the cervix, there will seldom be trouble from intestinal adhesions. But if the fundus uteri be high up in the pelvis, and the organs be adherent high up on the broad ligament so that the cervix projects far below them, or if they be adherent to the sides of the

pelvis and far removed from the eervix, they had better be approached from above. They will be difficult to reach from below; firm intestinal adhesions may be present; it may not be possible to get the pedicle down into the vagina, and the field of the operation, even after the parts are removed, may require attention that we cannot give.

### HEMATO-SALPINX SIMULATING ECTOPIC PREGNANCY.

BY
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(With plate.)

The patient, Ida B., a young colored woman 22 years of age, was admitted into the Woman's Hospital of Philadelphia on July 29th, 1890, suffering from a uterine hemorrhage which had persisted for five weeks and which was supposed to be due to some retention of secundines after a recent delivery, or, possibly, to an early miscarriage.

Her history was as follows: She was one of a family of sixteen children, nine of whom, besides herself, were living and in good health, two had died of typhoid fever, and four others had died in early infancy of unknown causes. Her mother had died in childbirth. Her father was living and well. Patient's childhood was healthy, save for the usual diseases of that period. Menstruation was established at the age of 12 years. The periods were regular, but painful and profuse. She was married in October, 1889, and on the 11th of August, 1890, gave birth to her first child. The labor had been severe and instruments were used for her delivery. Her health had been poor ever since. Five weeks previous to her admission she had a profuse hemorrhage, losing several large clots. The time of the flow corresponded to that of her usual menstrual period. The discharge had, however, persisted for five weeks and was accompanied by much sacral

HÆMATO-SALPINX SIMULATING TUBAL PREGNANCY-OCCLUSION OF TUBE



and abdominal pain, aching of the limbs, and general prostration.

Upon examination the uterus was found enlarged, the cervix soft, its canal patulous, while posterior to it and to the right was a soft, fluctuating mass about the size of a hen's egg.

The patient was placed in bed and treated with hot-water vaginal douches for checking the hemorrhage. By August 2d the flow had eeased. For two weeks longer the patient was treated tentatively with a view to careful study of her case. Her condition remaining much the same, an abdominal section was decided upon, and performed on August 16th, 1890. Both ovaries were found to be greatly enlarged and cystic, the tubes highly injected, and the fimbriated extremities occluded. The appendages on both sides were studded with large peritoneal cysts. The tube on the right side was distended by a mass which had much the appearance of an ectopic-gestation cyst, but which proved to consist simply of organized blood clots. A hood of omentum enveloped the outer extremity of the tube and was adherent to the mass, as shown in the plate. The appendages were ligated and removed. The patient made an uninterrupted recovery.

# AN EXTRAORDINARY CASE OF TWISTING OF THE UTERUS AS THE PEDICLE OF A LARGE FIBROID TUMOR OF MANY YEARS' EXISTENCE.

BY

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Miss F., 58 years old, was attacked with sudden agonizing pain at 3 A.M. on February 3d, 1891. She was aware that she had had a fibroid tumor of the uterus for sixteen years. A subcutaneous injection of morphia made her more or less comfortable. The temperature was normal and the pulse 80 per minute. On the 6th, when I saw her for the first

time in consultation out of the city, her temperature had risen to 100° and her pulse to 90. I found the abdomen very tender and filled with a hard, round tumor extending above the umbilicus and to either iliac spine. She had been vomiting—as the attending physician thought, from the morphia, but very likely from the peritonitis—but was able to take and retain milk and granum. I thought that the pain, tenderness, and vomiting were caused in some way by the fibroid tumor, and yet there was no obstruction of the bowels. If the tumor had been an ovarian one I should have known at once that its pedicle had become twisted, but I never dreamed that a large fibroid which included the uterus could twist that organ and become strangulated. I suggested immediate laparatomy, but it was not acceded to. I could not promise a cure, but I said that operation was the only thing to be done. The vomiting gradually ceased, and as the days went on the temperature gradually rose to 102.5° on the 8th of February, and the pulse to 110. The tenderness and moderate distention remained the same, requiring morphia. More or less cough and rapid breathing developed (pneumonia), with purulent expectoration. I saw her again on the 14th of February. At this my second visit the temperature was 104° and the pulse 130. When not under the influence of morphia the cough and any movements of the body caused great pain. Having settled her business matters, she was desirous of the operation, which she thought would end her sufferings and her life, but she did not expect to recover. It seemed to me hopeless to operate. The only chance was within the first few days of the attack.

The bowels had moved on the 12th. There was now, in addition to the peritoneal irritation, some pneumonia and considerable cystitis.

On the 17th there was some exaltation, talking almost incessantly, and even singing. The temperature gradually fell until, on the 2d of March, it was normal. The abdominal tenderness also diminished, but the cystitis increased and the bladder was washed out. At this period she was taking only one-third of a grain of morphia in twenty-four hours. From this time onward she had no marked symptoms except increasing loss of strength and occasional pain. The tempera-

ture and pulse gradually rose to 102° and 140, respectively, and she died on March 14th, on the thirty-ninth day of her illness. There seemed to me no time when she could have been etherized and operated upon with any hope of success after the first week. I have given this condensed clinical history of the case in order to introduce an account of the very remarkable state of things revealed by the autopsy.

Autopsy.—Body of a small, emaciated woman. Head not opened. Heart small, slightly opaque, flaccid, otherwise not abnormal. Lungs contained a little frothy fluid. In the right lung, at the middle of the lower part of the upper lobe, was a solidified mass the size of an orange, opaque and greenish on section. The peritoneum was covered with a purulent and fibrinous exudation, and the coils of the intestines were glued together. The lower part of the abdomen was occupied by a large, smooth, rounded growth arising out of the pelvis to a point above the umbilicus. The omentum was spread out over this growth and was adherent to it. The tumor was dark-colored on the outside and reddish-purple within. To it was attached another smaller, rounded mass into which the Fallopian tubes entered, and to which were attached the broad, the round, and ovarian ligaments and ovaries, and in which was contained a cavity, smooth-walled, recalling the cavity of the uterus. To this was united the cervix uteri by a broad, flattened band of fibrous tissue, forming a pedicle which had been twisted one and one-half times on its axis from left to right. The twist was very tight, resembling a rope, and in it were contained, in addition to the flattened body of the uterus, both broad ligaments with their contents, and both ovaries more or less cut off from their blood supply. The circulation in the tumor had been completely cut off and it was strangulated. Careful examination failed to reveal any passage leading from the cervix to the fundus of the uterus through this fibrous band. Section through the large tumor showed it to be of a fibromyomatous structure and infiltrated with blood. The mucous membrane of the bladder was covered with crustaceous masses and inflamed. The other organs presented no marked changes.

Diagnosis.—Fibro-myoma of the uterus. Congenital (?)

separation of the fundus from the cervix uteri, twisting of the pedicle thus formed, and strangulation of the mass above. Acute purulent peritonitis. Lobular pneumonia. I am sorry the exact weight and dimensions of the tumor cannot be given. I should say the weight was about six pounds and the diameter about nine inches.

How this great solid mass could have been twisted on the middle of the uterus as its axis is a mystery. Whether this partial separation of the body of the uterus from its neck was congenital, or whether the twisting had come on gradually and thus had elongated the junction of the cervix and body of the uterus until it had become a mere band, cannot easily be determined. I think the separation and elongation must, however, have been gradually produced. The case is worth putting on record on account of its extreme rarity. Indeed, I have never seen or heard of a similar case, but I have made no special search to find one.

## THE TREATMENT OF ENDOMETRITIS.\*

 $\mathbf{B}\mathbf{Y}$ 

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I no not propose to enter into a controversy regarding the existence of endometritis in either an acute or chronic form. From the earliest history of medical science to the present time we find mention of inflammatory diseases affecting the genital organs of women, and during the more enlightened period of the world's history we find descriptions of treatment applied directly to the uterus itself—not entirely for the removal of growths, but for the relief of slighter affections.

Aëtius 1 lived in Alexandria about 500 B.C., and spent a large part of his life collecting the medical writings of others that were stored in the famous library of that city. He speaks

<sup>\*</sup> Read before the Medical Society of the State of New York, February 2d, 1892.

of the use of the speculum, describes minutely the sponge tent and intra-uterine medication, mentioning the use of ointments, intra-uterine pencils, and caustics of many kinds, which shows that for a long time the Egyptian physicians had been in the habit of treating inflammations of the uterus.

During the dark ages this learning seems to have been lost, and its revival was slow. At first this class of troubles were treated by the most heroic measures. Patients were bled from the arm, large numbers of leeches were applied to the cervix, and the unfortunate women were freely rubbed with ointments of antimony, so that in a few days they were unable to sit up without fainting, and, according to the reports of cases that are left, the patients were cured. This mode of treatment was followed by the use of vaginal douches of different kinds. Then came a long list of careful observers, as Bennett, Wright, Tilt, Sims, Byford, Chapman, and many others, until the present treatment has been established.

J. Marion-Sims<sup>2</sup> in 1866 stated that "nothing in uterine disease is more difficult to remedy than endometritis." "The first principle to guide us is that of insuring a free exit from the cavity of the uterus for the secretions therein generated." "The second is that of appropriate applications to the cavity for the purpose of modifying or healing, as it were, its diseased surface." Sims advocated dilatation of the cervical eanal with tents or graduated bougies, but in a large majority of cases preferred division of the cervix; furthermore, he mentions the use of a hollow stem that is held in the uterus by separation of the upper extremity. Later he devised a steel branch dilator that has been very little improved upon to the present time.

While these principles have been taught for some time, the custom has been, and still prevails to quite an extent, to treat these troubles by placing the patient in bed, clearing the bowels, applying heat over the abdomen, and giving anodynes to relieve the pain. This is especially the case when endometritis follows labor.

In order to completely describe the treatment of endometritis, we will divide it as follows:

1. Affecting the cervix: (a) acute, (b) chronic.

2. Affecting the entire endometrium, including that of the cervix and body: (a) acute, (b) chronic.

In all varieties of endometritis the general regimen must be thoroughly looked after, and in many instances that will be all the treatment required, especially where there is a marked diathesis, as in scrofula, gout, syphilis, etc.

When the cervix alone is affected free drainage should be established, if it does not already exist. Where there is marked contraction of the external os, crucial incision, as recommended by Mundé, will be found very beneficial. If the case is mild, applications of tincture of iodine or carbolic acid, or a mixture of the two, with tampons thoroughly soaked in glycerin, and hot vaginal douches, are all that is necessary to effect a cure; but, on the other hand, if the glands are extensively involved it will be found necessary to destroy them, either with a sharp curette or an escharotic. Funing nitric acid has been quite a favorite remedy of late, although there is scarcely a powerful escharotic that has not been used and does not have its advocates. Emmet and a number of others have demonstrated that cicatricial contraction of the cervical canal is apt to follow the use of escharotics.

When the whole endometrium is involved the disease will be found much more difficult to cure. In the acute form, especially if it is of septic origin, the whole uterus is involved; and not infrequently, though it follows parturition, there is so much tumefaction at the internal os that quite a large amount of material is retained in the uterine cavity. Frequently when there is a sudden rise of temperature or arrest of the lochia, if the finger or an instrument is passed through the internal os, a discharge of retained lochia will follow, showing that there is obstruction. In this class of cases Polk 5 advocates drainage with strips of iodoform gauze. When I was house surgeon (1882) at the New York Maternity Hospital, it was customary to treat this class of cases with antiseptic (two-per-cent solution of carbolic acid) intra-uterine douches administered from once to three times during the twenty-four hours. I still consider this the best local treatment. B. S. Schultze advocates this method of treatment in chronic suppurative endometritis. He precedes each antiseptic douche

with a douche of a three-per-cent solution of soda, for the purpose of clearing out the accumulated discharges.

In the chronic form of endometritis there is very little tendency to recover, and the ingenuity of the medical profession has been taxed to its utmost to cure the more obstinate varieties. A very large number of astringents and escharotics have been applied in the form of solutions, ointments, bouhave been applied in the form of solutions, ointments, bougies, and solid substances. One physician claims to have been the first to use chromic acid, another fuming nitric acid, and so on, but the treatment is very much the same. As I mentioned in the introduction to this paper, J. Marion-Sims stated in 1866 that drainage was of the greatest importance in the treatment of this class of cases, and described a stem that he had found very useful in many instances. About two months ago I went to Messrs. Tiemann & Co. to borrow some pessaries to show the class at the Post-Graduate Medical School. They lent me eighty varieties, and said that they would lend me eighty varieties more if I wished. They had a large number of old stems of different kinds and shapes and made of many different materials. Some were perforated, some grooved, some flat, and some round. In the collection there were many that would keep up free drainage, and a number would stay for several days at least in the average cervical canal without support.

I have tried to demonstrate that the idea of establishing

I have tried to demonstrate that the idea of establishing drainage in this disease is not new; but, on the other hand, its general adoption is new, although in reality it can hardly be said to be generally adopted. Drainage is not the only thing. If fungosities are present they should be removed with a curette; and the disease is cured much quicker when a good antiseptic is applied to the interior of the uterus after the curetting. With this object in view, Polk stated in a paper read at the annual meeting of the American Gynecological Society, September 19th, 1888, that "you should anesthetize the patient; dilate the cervix and cavity of the uterus; wash out the uterus, using a double catheter; pack, but not tightly, with strips of iodoform gauze." "Curetting is sometimes necessary and valuable, but drainage and the gauze are usually sufficient." Recently, in a paper read before the New York Academy of Medicine, he advised packing with iodoform gauze and leaving it in the uterus for a week, if it is not thrown out before.

It is difficult to find out who first packed the uterus with iodoform gauze for endometritis. Garrigues<sup>7</sup> thinks that it was Fritsch, of Breslau. For a long time it has been the practice of quite a number to treat other conditions in this way.

The following history will illustrate the treatment that I first saw Dr. C. C. Lee use, and that has been successful in a number of cases in my own experience: Mrs. D., age 32, married twelve years, menstruated profusely for from ten to fourteen days, severe pain before, during, and after the flow. Eight years ago had an abortion followed by fever; since then she has never been well, complaining of pain in the pelvis much of the time, which at times was severe, also of painful and frequent micturition. On examination there was found prolapse of the left ovary and tube, a slightly fixed uterus, and chronic endometritis. November 1st, 1891, she was anesthetized, the vagina was thoroughly washed and douched with a solution of bichloride of mercury, the cervix dilated with a steel branch dilator, the interior of the womb curetted with Thomas' dull curette and douched with a two-per-cent solution of carbolic acid, a Cleveland glass stem was introduced and held in position by a silver wire passed through the anterior and posterior lips of the cervix. The patient was kept in bed until November 9th, 1891, when the stem was removed and a solid glass stem introduced and held in place by means of a Thomas cup pessary. She was allowed to get up. At the end of two weeks the pessary was removed, and it was found that the endometritis had been cured. I have seen this patient a number of times since, and there is no return of the endometritis. which was probably of septic origin following an abortion. I have successfully treated similar conditions by using strips of iodoform gauze in the place of the tube; but I have never packed the uterus with iodoform gauze, as described by Polk, but expect to do so when a proper case presents itself.

I think that the cardinal principle is drainage, but do not think that it matters very much how it is accomplished, so long as it is done antiseptically and the uterus is not subjected to too great violence.

I will summarize as follows:

1. In all varieties of endometritis the general health should be most carefully looked after, and any other disease that the patient has should be thoroughly treated. If there is a strumous diathesis, a syphilitic taint, or a chronic gout, constitutional treatment will be found of the utmost value. Persistent anemias due to malarial poisoning, digestive derangements, overwork, improper food or clothing, poor ventilation, improper exercise, and numerous other causes, will defeat the best possible local treatment.

- 2. When the cervical endometrium is alone affected, free drainage is usually found to exist; if it does not, it should immediately be established. Where the external os is very small, with a dilatation of the cervical canal existing above, crucial incision should be made; but if the constriction is not so marked, the cervical canal only should be dilated. Dilatation should be accomplished with graduated dilators, or preferably with a steel branch dilator, but never with tents; tents cause too much septicemia.
- 3. If the condition has not lasted for a long time and the cervical glands are not extensively involved, applications of alteratives, as Churchill's tincture of iodine, pure or mixed with an equal part of carbolic acid; or astringents, as solutions of nitrate of silver, with the aid of glycerin applied to the cervix by means of cotton—or, still better, lamb's wool—tampons, and hot vaginal douches, as advised by Emmet, will be found sufficient to effect a cure. If the disease is very acute, applications to the cervical endometrium should be omitted and the patient should be kept in bed. On the other hand, where the condition is very chronic, and the glands are extensively involved, and there is a profuse, thick, tenacious discharge that is very persistent, the patient should be given an anesthetic, the glands removed with a sharp curette, and a stem left in the cervix to prevent contraction. I prefer the hollow glass stem devised by Clement Cleveland.
- 4. When the entire endometrium is involved, as a rule free drainage does not exist, and its establishment is the first thing to be accomplished. In acute septic endometritis, antiseptic intra-uterine douches, as a solution of carbolic acid (two per cent) or bichloride of mercury (1 to 5,000), should be given often enough to keep the uterus free of septic material. In chronic forms where fungosities do not exist, the best results are obtained by thoroughly dilating the cervix,

with the patient anesthetized, and the introduction of a Cleveland stem or iodoform gauze.

5. In all excepting the very acute cases, when the cervical canal is left free, from twice to three times a week a tampon thoroughly wet with glycerin is loosely placed in the vagina behind the cervix and allowed to remain for twenty-four hours. When there is no tampon in the vagina, hot vaginal donches are given from once to three times a day, depending upon the severity of the inflammation.

I am aware that it is impossible to thoroughly cover this interesting and very important subject in a single paper, but I have attempted to describe, in the main, the treatment of endometritis that in my hands has proved most successful.

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# POLIOMYELITIS ANTERIOR, OR INFANTILE PARALYSIS.1

BY

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This disease has been called by various names, but the correct one, and that admitted by a majority of writers on this subject, is "infantile paralysis." Very little was known of it or its pathology until Cornil in 1863, and Provost and Vulpian in 1865, located its causative lesion in the anterior horns of the gray matter of the cord. Charcot and Geoffrey reported two cases in 1870. The varieties of the disease are the acute, the subacute, and the chronic. The former is

<sup>1</sup> Read before the Washington Obstetrical and Gynecological Society, November 6th, 1891. most frequent. The disease may occur at any period of life, but is oftener found in the first three years than later. It is rarely seen in the first year. There is very little doubt that some cases are congenital. In many instances it is found that children who cannot use their limbs at fifteen months are suffering from this disease. Dr. L. G. Morton believes that most of the cases of congenital club-foot are the result of intra-uterine paralysis, as in all of these cases there is palsy of some muscles of the limb. Bramwell reports a case developed in a child three weeks old.

Dr. Wharton Sinkler reports three hundred and thirty-five cases under his charge in the Philadelphia Infirmary for Nervous Diseases. In these cases fifty-six occurred in children under 1 year of age, one hundred and thirty-four of the patients were attacked between the first and second, seventy-seven between the second and third, twelve between the fourth and fifth, and eighteen between the fifth and sixth years. It is stated that more boys suffer than girls, and that it is more apt to appear, according to Gowers, during the warmer months, between May and October.

Cordier reports that he saw an epidemic of thirteen cases in June and July of 1885 in a small city of fifteen hundred inhabitants. He stated that these cases proved to be infectious, similar symptoms appearing in children forty-eight hours after being exposed. He also stated that convulsions occurred in about half the cases, and that paralysis was present after the second day, except that in four fatal cases he observed paralysis in the muscles of the neck. In these fatal cases the lesion was not confined to the cord, but extended to the bulb and to the gray nuclei of the ventricles. The paralysis did not disappear rapidly in all his cases, for in some recovery was very gradual, and in a few atrophies and deformities remained. My experience has not been similar to Dr. Cordier's, as I have failed to note a single case which I could trace to contagion. In about one-third of my cases convulsions occurred, and paralysis was present about the fourth or fifth day.

The disease is often produced by a fall, or injury to spine, over-exertion, exposure to high temperature, etc. It occurs after convalescing from the exanthemata, especially after scarlet fever, as in my third case. Sometimes delayed dentition may

predispose to it, although 1 do not think dentition alone will cause it. But at this period of life the child is very nervous and more susceptible to depressing impressions, such as exposure to cold or sudden checking of perspiration.

Symptoms of the Acute Form.—The patient becomes fever-ish and vomits, is fretful, and cries when moved; there is sometimes diarrhea. The child does not throw its head back unless there is meningeal inflammation present. After thirtysix hours it will be found paralyzed in one or more limbs. The fever generally lasts four or five days. Sometimes, after the subsidence of the fever, the patient complains of general soreness. If the arms are affected they usually recover first, and then the legs. There is often apparent shortening of one of the limbs, particularly if the case is going to be chronic. In the subacute and chronic variety the child has little fever or constitutional disturbance. Sometimes the patient shows only a weakness in one or both limbs; if in one, it limps for a while, and then, in a few days, it cannot walk. This form is generally considered very fatal, as it is progressive; regression seldom occurs. Sometimes the inception of the disease is so gradual that the parents, and even the physician, do not recognize it until it is far advanced, and then very little can be done or hope given. The symptoms are usually limited to the parts below the lesion; often both upper and lower extremities are affected. There are seldom any prodromes. Sometimes the child shows an indisposition to walk for several

This is the myelitis without the softening and hyperplastic myelitis of Dujardin-Beaumetz. Pain is often felt in the back of the head and spine over the seat of the lesion. The pain is not so severe as in spinal meningitis or sclerosis, but, like the pain in the latter, is generally of a dull, heavy nature. The bemiplegic form, although rare, does sometimes occur; it is readily distinguished from cerebral hemiplegia by the fact that facial paralysis is rarely associated with poliomyelitis, and by the absence of unconsciousness. Sometimes one group of muscles are affected, often only the flexors of the foot. Sometimes muscles of the upper extremities, as the deltoid, are alone paralyzed, or the muscles of the hand only are affected. The paralysis in the acute cases is at its

height in about a week, and usually remains stationary from one to six weeks. If the paralytic condition continues beyond two months, the outlook is unfavorable for perfect recovery; for, while regression may begin at any time after the second week, if it be delayed until six weeks or later atrophies of the muscles and also arrest of the growth of the bone occur; then we have shortening of the limbs. The temperature is generally lower in the limb affected; there is seldom a loss of sensation. Sometimes there is a loss of bladder control during the height of the fever, if meningeal inflammation is present, but retention of urine rarely occurs in this disease.

In regard to the pathology and nature of the affection there is a great diversity of opinion. At present the general belief is that the disease is in the ganglion cells of the anterior cornua, which has been shown by Geoffrey and Charcot.

Damaschino made an examination of the cord of a child of 2½ years who died twenty-six days after the attack. The right leg and arm had been palsied. Foci of red softening were found in the anterior cornua, in the left lumbar and right cervical region. There were also present distention of the blood vessels, enlargement of the muscular network, granular corpuscles in lymphatic sheaths, marked atrophy of the cells and of myeline sheaths of fibres in anterior roots; axis cylinder had disappeared. Lesions were marked throughout the cord.

The changes were confined to the anterior horns. The large ganglion cells and nerve fibres were more or less completely destroyed in the diseased foci in various stages of degeneration.

When the degeneration takes place in the anterior and lateral column, its direction is downward from the site of section or lesion of the fibres, at whatever level the damage may exist, whilst in the posterior column it takes the upward direction from where the lesion occurred.

Charlton Bastian says that atrophy of ganglion cells may occur as a secondary process with extreme frequency in portions of the gray matter of the cord. In this disease the ganglion cells of the anterior cornua in different parts of the cord are prone to be suddenly overtaken by an etiologically obscure and altogether inexplicable failure of nutrition, which

speedily reveals itself by entailing an atrophy of the particular cells affected.

This, for instance, occurs as the anatomical basis of infantile paralysis. In these diseases whole groups of contiguous and functually related cells are affected at the same time. And as the atrophy progresses there is generally secondary overgrowth of the neuroglia surrounding such nerve cells in the anterior cornu. It is in these cases of progressive atrophy which continue that the limbs become atrophied and permanent deformities ensue. In this condition the patient may live for many years.

Diagnosis.—This is not difficult if one examines the symptoms closely, as they are peculiarly striking and, if once observed, are rarely forgotten. Of course fever occurs in most of the cases, but the complete loss of power will arouse our suspicions. In most instances the attack comes on suddenly, with fever and paralysis, and is usually complete in a few hours. Facial paralysis is always absent, and the patient seldom becomes unconscious as is the case in cerebral paralysis. It is difficult to make a diagnosis between this and progressive atrophy and the transverse myelitis. In cerebral paralysis the muscles respond readily to the induced current, but in poliomyelitis there is no response. In myelitis the pyrexia is greater, and hyperesthesia is intense and is followed by anesthesia. The knee jerk and other reflexes are always present. Progressive atrophy is rare in children. Hemorrhage in the gray substance may give rise to symptoms similar to this disease, but as a rule it seldom occurs in children.

The prognosis is generally favorable. If the case becomes chronic and cerebral complications are observed, we must look upon it as serious. An electrical examination every few days will assist us very much in finding the muscles affected, and it will enable us to determine when regression ensues. Muscles which do not respond to the faradic current are likely to remain permanently paralyzed. We can expect recovery in a reasonable time. In chronic cases complete recovery rarely takes place, yet we should not desist in treatment even when the disease is of long standing, for sometimes our persistent efforts are crowned with success.

Treatment.—In the two varieties the treatment differs. If

the case is acute and begins suddenly, we should treat it antiphlogistically; give a mercurial purge; apply mustard plaster and leeches, or some other counter-irritant, to the spine. The bromides of potassium and sodium and fluid extract of ergot are highly recommended. These are the remedies which I have used with decided advantage. I give the ergot in large doses every three hours as long as the child's stomach can tolerate it. When the palsy sets in I apply a blister to nape of neck. Belladonna is recommended, but I have never used it. If meningeal inflammation is present I use mercury and iodide of potassium. The treatment of the chronic or subacute forms consists in remedies which will restore power to the paralyzed muscles, and the correction of deformities. The most important remedy here is electricity, and the next massage. In using electricity we should begin by applying the induced current for a short time each day, weak at first, and then gradually increased until some impression is noticed. I have used faradism in two cases, in one of them with decided benefit, but in the other no amelioration of the symptoms was observed. Of course electricity cannot be employed until the second week or until the fever has entirely disappeared, and care should be exercised that it is not so strong as to cause pain. Massage is of great value in spinal paralysis, for it stimulates the parts, keeps up nutrition, and reduces the wasting of the muscles; although we must not continue it too long or it may injure the patient. It should be used daily. Sometimes great contraction of the muscles occasions such deformities that tenotomy is required.

In massage the bare hand is preferred, except when some

In massage the bare hand is preferred, except when some stimulating lotion is required. The paralyzed limb should be kept warm. If the muscles become permanently atrophied the patient should use suitable crutches, and some well-fitted apparatus to limbs. The chief internal remedy that I have used is strychnine; I use also cod-liver oil and iron tonics to combat the anemia.

Case I.—Mrs. B. consulted me in regard to her child, aged 2 years; she stated it could not walk and had but little use of its lower limbs. I noticed a jerking of the limbs, and at times a temporary diverging strabismus. A prominent symptom was a pulling of the nose and twisting of the fingers and

thumbs inward. The child was very pale and anemic, its muscles poorly developed. The mother stated that since six weeks after its birth it had not been able to move its lower limbs. She thought this natural. The symptom that annoyed her most was that it cried when moved or handled. There was a shortening of the left leg, and both limbs were smaller than natural. I considered the case so far advanced that little could be effected by treatment, but placed the child on an iron tonic, had the spine rubbed twice a day with whiskey and Peruvian bark, after which it was rubbed well with a coarse towel. This was in July, 1891. The child did not improve, and on August 18th she was taken with severe bronchitis, and died on the 24th in convulsions.

Case II.—I was called to see Mrs. H.'s child, aged 3 years. This was a case of meningo-myelitis. I found the child with high fever; head thrown backward; very restless; cried whenever moved, and complained of soreness of limbs and headache. Temperature 103°, pulse 100. These symptoms lasted about four days, when the fever subsided. At this stage the nurse noticed complete loss of the use of both legs. I placed the patient on antiphlogistic treatment, with bromides and ergot, and applied a blister to the nape of the neck. After several months she recovered the use of one limb. She is now 12 years of age, and has regained considerable use of the other limb, but not sufficiently to walk without the aid of a crutch. Both of her limbs became thin and atrophied, one of which is so at present.

The faradic current was applied regularly for several months, also massage. Strychnia was given for two months. In this case the child was very ill for two weeks, and appeared at one time to be beyond recovery, and I am confident that the bromides, ergot, and blister were the remedies which proved so efficacious. And the bright little girl, who is a cripple, enjoys life as much as any of her companions.

Case III.—During the convalescence from scarlet fever a child of Mrs. Q., aged 6 years, was suddenly attacked with high fever and convulsions; the latter lasted about ten minutes. In twenty-four hours she had seven severe paroxysms. The fever lasted four days. On the fifth day the mother noticed that the child was unable to move its lower limbs. It

complained of great soreness. Under the bromides of potassium and sodium and fluid extract of ergot, with blister to spine, for two weeks, the child recovered the use of its limbs; after this it made a rapid recovery.

### ASEPSIS AND ANTISEPSIS IN OBSTETRICAL PRACTICE.

BY
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Asepsis is defined as "freedom from putrefaction or from its effects," and as "absence of all septic material or microorganisms."

Antisepsis is a collective name for measures intended to prevent putrefaction or infection with septic material, or, in other words, with the bacteria upon which the putrefaction depends. So long as and wherever asepsis prevails, antisepsis is needless. Wherever and whenever the former ends the latter should begin. This proposition should apply to the practice of obstetrics as well as to surgery.

Outside of lying-in hospitals, antiseptic measures for the protection of women in labor have not been as largely adopted or thought as essential as in surgical procedures. Furthermore, it is also true that among the larger portion of child-bearing women and those who care for them in confinement asepsis is not considered to be of the real, vital importance which it is. Those who have seen the significant transformation in the large lying-in hospitals of Europe and America from a mortality of ten per cent or more from puerperal septicemia, together with the serious illness of many who did not succumb to its virulence, to an almost complete immunity from septicemia after asepsis and antisepsis had been thoroughly enforced, need no greater demonstration of the merits of modern antiseptic midwifery. They who in private prac-

<sup>&</sup>lt;sup>1</sup> Read at the annual meeting of the New York State Medical Society in. Albany, February 2d, 1892.

tice have experienced the realities of caring for cases of genuine puerperal fever, with some proportion of them ending in death, must regard asepsis and antisepsis with greatest favor. The escape from sepsis of a vast number of women who have passed through the puerperal state, accompanied or not by complications, dystocia, version by the hand of the physician or instrumental delivery, with no regard to asepsis or antisepsis, is no argument against their observance.

On the other hand, every case of puerperal fever, every case of lingering illness therefrom, every death in consequence of it, is a standing reproach to the non-observance of antiseptic measures. They can do no harm, if not absolutely needful, and they will protect against puerperal septicemia and its very frequent fatal results in a very large proportion of cases when carefully and thoroughly enforced.

The fact that puerperal septicemia is of microbic origin being well established, and that micrococci of erysipelas, scarlet fever, diphtheria, and pyemia, resembling the characteristic round micrococci in chain-like groups of puerperal septicemia, may produce septicemia if introduced into the system of a woman in the puerperal state, renders it needless at this time to discuss the etiology and pathology of the malady which antiseptic measures will avert or abort.

My chief purpose is to give emphatic indorsement to the practice of antisepsis in obstetrics, and to urge the feasibility of its use in private general practice as well as in lying-in

hospitals.

The first step in carrying out the principles of antiseptic midwifery should be the attendance of competent obstetricians upon all cases of confinement. In the present state of obstetrical practice this cannot be fully secured. It is humiliating to admit, and a painful fact to realize, that in the Empire State of our Union, where the popular opinion prevails that there is a larger number of medical graduates and practitioners than the general requirements of communities demand, one-third of the births of children in cities of ten thousand and upward are superintended by midwives, many of whom have not even the ordinary knowledge and skill of a competent nurse. In New York City, the centre of medical science and art in this country, where reside men of highest attainments

in every branch of medicine, nearly fifty per cent of the births reported at the city registry are attended by midwives. This should be no excuse for the neglect by competent obstetricians of the better methods, but, on the contrary, there should be an incentive to their adoption, so that the difference between a skilled physician and an unskilled midwife may become more strikingly apparent to the general public, creating thereby a just and forcible demand for the services of well-educated obstetricians.

No surgeon in these times thinks of performing either minor or capital operations without strict antisepsis being enforced. Every case of childbirth should be regarded as surgical, so far as sepsis is concerned. The internal surface of the uterus whence the placenta is detached is a large wound, in prime condition for absorption of any casual infectious material with which it may come in contact. The poison of puerperal septicemia may be brought in contact with the genitals by the hands of doctors or nurses, by instruments, sponges, dirty cloths, cotton, or unclean clothing, and it may also be suspended in the atmosphere and be absorbed therefrom by the parturient patient.

Bearing these facts in mind, physicians and nurses should be rigidly scrupulous in rendering themselves thoroughly aseptic, if need be by antiseptic measures, before approaching a case of confinement. Previous attendance on cases of puerperal fever, any septic disease such as diphtheria, erysipelas, and scarlatina, or any suppurating conditions incident to surgical cases, render both physician and nurse liable to carry to the lying-in room germs which may generate septicemia. We do not need the teaching of modern antiseptic practice to substantiate this truth, for those of us who were in practice before its day have experienced its reality. Assuming that physician, nurse, and other attendants who may have to do with ministrations upon the patient have rendered themselves aseptic—if necessary by antiseptic bathing, especially scrubbing the hands and arms first with soap and water, then with bichloride or creolin solution, using nail brush and knife blade, and by change of clothing entirely free from aseptic germs—the next consideration is the condition of the confinement room and bed-An ideal confinement room is one prepared like that for a

regular laparatomy, all carpets, rugs, and hangings which might possibly retain any sepsis being removed, and nothing but the simplest and most necessary articles allowed to be in the room. This, of course, in general private practice cannot be fully secured, but the nearer a confinement room is prepared and furnished like a laparatomy room the greater will be the safety from infection from such sources. The bed should have fresh, clean sheets and pillow cases, and the other furnishings should be clean and plain as possible. Thus much can be secured in most cases in private practice, unless the labor begins unexpectedly and progresses very rapidly.

When a woman is taken in labor she should be given an enema and a bath, and every part of her person liable to be touched by physician or nurse, or to come in contact with discharges during labor, should be well washed in a warm solution of bichloride of mercury 1:2,000 or a two-per-cent solution of creolin. She should also have a vaginal douche of the same fluid—this, in protracted cases, being repeated every three or four hours. Her clothing next the person should be changed for that which is clean, and a sufficient amount of loosely fitting outer clothing, fresh and clean as possible, varied according as the patient may be inclined to be up and about the house or in bed, should also be donned. The rubber sheet to be placed under the cotton sheet on which the patient is to lie should be washed with a 1:1,000 solution of bichloride just before she is put upon the bed. As few vaginal examinations as possible should be made by the physician during the progress of labor, and each time the hand should be well disinfected by creolin or bichloride solution.

When the child appears at the vulva a napkin wrung out in a warm solution of bichloride 1:3,000 or a four-percent solution of creolin should be applied and kept there until the presenting part passes the vulva. After the expulsion of the child the genitals should be kept covered in the same manner until the placenta is expressed by Credé's method.

If, in exceptional cases, it is necessary to introduce the fingers or hand into the vagina, it should immediately be douched with the creolin or bichloride solution as before; and if the hands, fingers, or instruments have been neces-

sarily passed into the uterus, it also should be douched with a one-per-cent solution of creolin.

After removal of placenta and clots the genitals and surrounding parts should be washed with a five-per-cent creolin solution or bichloride 1:2,000, and the vulva and perineum covered with an antiseptic occlusion dressing, which may be varied according to circumstances; that described by Garrigues as used in the Maternity Hospital in New York is complete and cheap. Absorbent cotton, alone or folded in cheese cloth in the form of a regular napkin, wrung out in the five-per cent creolin solution, makes a good first-layer dressing; and this covered with oiled silk or gutta-percha tissue dipped in the solution, together with an outside retaining muslin napkin, completes the vulva dressing. After the genitals have been dressed a binder eighteen inches wide should be pinned evenly about the body, extending down to the greater trochanters. The vulva dressing should be changed from three to six times in the twenty-four hours.

There is variance of opinion as to the use of vaginal douches after the birth of the child and during convalescence. If asepsis has been perfectly maintained during labor and there are no extensive lacerations, the douche may be omitted. My habit is to have at least one douche carefully administered each day as a matter of hygienic comfort to the patient. It is generally very agreeable to her, and in primiparæ encourages healing of any lacerations that may have been made. Bedpan, catheter, vessels, and all instruments used about the patient should be kept clean with water and antiseptic solutions.

The principal truth which familiarity with antiseptic chemicals and measures has impressed upon the minds of the medical profession during the past decade is, that cleanliness is the ideal desideratum in every department of medicine and surgery. This being true, it cannot successfully be maintained that asepsis and antisepsis in obstetrical practice are anything but essential. We may differ as to how they may be best attained and maintained, but I am sure we are progressing, though slowly, in the right direction by the adoption of the principal features of antiseptic midwifery as they have been taught and practised among us, especially during the past six

years. I am, furthermore, so sanguine as to hope and believe that ultimately, from the seeming superabundance of doctors in our country, there will come forth a class of men willing to do good scientific obstetrical work among the poor as well as among the rich, and that with the help of a better public sentiment, and perhaps some necessary legislation, many or all the inefficient and ignorant midwives will fail to find employment in the practice of obstetrics.

## CORRESPONDENCE.

IS A RIGID OS WITH PLACENTA PREVÍA AN ABSOLUTE INDICATION FOR CESAREAN SECTION?

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS, ETC.

SIR:—On page 221 of the February number of The Ameri-CAN JOURNAL OF OBSTETRICS Dr. Sligh, of Granite, reports a case of Cesarean section in which he claims there existed an absolute indication for this operation. The woman was in the seventh month of gestation, well developed and nourished. She had flowed some during each month of pregnancy, and three days prior to the operation there was considerable hemorrhage. Vaginal examination revealed a hard, indurated cervix, not shortened and not dilated. An attempt was made to dilate the cervix by means of a Barnes' dilator, but no greater degree of dilatation could be secured at that time than sufficed to admit two fingers. Placenta previa centralis being diagnosed, podalic version was tried, and, failing in this, the membranes were ruptured and the vagina tamponed with iodoform gauze. A few hours later labor pains were severe; the woman was weak and exhausted, temperature 102°, pulse 118; the os admitted one finger; the child was dead. The doctor, having a "suspicion approaching diagnosis" that the resistant condition of the cervix was due to carcinoma, advised Cesarean section as the only possible way to deliver the woman, and his proposal was accepted. The conservative method of Cesarean section was adopted, and the woman died twelve hours after operation. This case presents various features which are interesting enough to deserve closer study, and the report of Dr. Sligh deserves criticism, because I believe he failed to prove any of his statements.

The questions we must ask are:

1. Did there exist malignant disease of the cervix?

2. Was there an absolute indication for the sectio Cesarea, which means, Was it impossible to deliver an even mutilated fetus per vias naturales?

3. If Cesarean section was absolutely indicated, was it best

to select the conservative method of this operation?

In regard to the first question, it is clear that Dr. Sligh has brought no proofs to warrant the diagnosis of carcinoma of the cervix.

Rigidity of the cervix may be due to various causes—for instance, inflammatory changes; cicatrices, a result of previous lacerations; interstitial fibromata; and, lastly, carcinoma. The results of the former pregnancies—three children stillborn and the fourth dying when eight months old—might arouse a suspicion of syphilitic taint.

In the report no mention is made that carcinomatous changes were observed when the uterus was opened, nor are microscopical sections offered as evidence. The woman gave no history of local pains or ichorous discharge, and the doctor remarks that the patient was well developed and nourished. Finally, her age, 32 years, is below the age when carcinoma is most frequent.

The claim that there existed an absolute indication for Cesarean section is also only based upon rigidity of the cervix. If this would be an absolute indication the lot of woman would be deplorable indeed. Numerous reports are on record where similar cases have been safely delivered by securing dilatation of the os by incisions. This method of procedure is not new, but it has lately again been recommended by Skutsch and Dührssen. It has the advantage of simplicity and safety over Cesarean section. In this case the conditions were quite favorable for its execution, because the child was

both premature and dead, and by performing craniotomy it could have been delivered through a not fully dilated cervix.

Finally, granting that carcinoma was present in this case and that Cesarean section would have been absolutely indicated, was it proper to select the conservative method of this operation? There is no authority to-day who does not advocate the Porro operation in cases of carcinoma of the uterus in which Cesarean section is indicated. What chances are there for recovery and regaining health if the diseased organ is again returned into the abdominal cavity? By the removal of the body of the uterns through the abdomen, and the extirpation of the cervix per vaginam at a later day, we place the woman in the most favorable condition. The results which are achieved to-day through Cesarean section are brilliant indeed if compared with the results of even ten years ago, but these results are reported by men well trained in performing abdominal section. They are mostly executed in well-appointed hospitals, where trained assistants and every other aid are at command, and even then the best statistics give a mortality of from eight to ten per cent. We may vary in opinion as to the performance of Cesarean section or craniotomy on the living child, when such alternatives are possible, but we must protest against the performance of Cesarean section when the child is dead and other and safer means of delivery are at our command.

I cannot admit that in the case reported by Dr. Sligh an absolute indication existed.

Julius Rosenberg, M.D.

37 East 62D Street, New York, February 16th, 1892.

### INTRA-UTERINE PACKING FORCEPS.

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS, ETC.

Dear Sir:—Permit me to invite attention to the description of the intra-uterine packing forceps published by Dr. Henry J. Garrigues in The American Journal of Obster-

RICS for January, 1892; which shows a striking similarity to the uterine applicator and dressing forceps devised by me, and presented before the Philadelphia Obstetrical Society March 4th, 1886, as described and illustrated on page 621 of your journal for that year. The likeness between the two instruments, with their characteristic strong handles, slender distal extremities, probe point, and roughened jaws, is somewhat remarkable. The two points of unlikeness, however, angular handles and a lesser curve of tip, in my instrument were both found, after trial, to be essential to a satisfactory use of the instrument—in my hands at least.

My forceps, as made by Gemrig & Son, were shown after a considerable use of them by myself and others, among whom were Drs. B. F. Baer, William H. Parish, and Howard A. Kelly, all of whom spoke in commendation of the instrument in the subsequent discussion in the Obstetrical Society, as reported on page 623 of your journal.

Yours very truly,

CHAS. HERMON THOMAS.

1807 CHESTNUT STREET, PHILADELPHIA, February 16th, 1892.

### TREATMENT OF ABORTION IN RETROFLEXED UTERI.

To the Editor of The American Journal of Obstetrics, etc.

Sir:—In the very instructive article in your January number by Dr. Bonifield, and the equally interesting and instructive discussion which followed its reading in the Obstetrical Society of Cincinnati, I notice what appears to your correspondent an important omission—the treatment of abortion in retrodisplaced uteri. These cases, very unlike abortions occurring in the normal uterus, require not only care, but most skilful management, if they are to be conducted with safety to the patient. It has been the writer's occasional experience to meet with these cases where the abortion was induced at or before the third month by extreme flexion of

the uterus. The fundus is in Douglas' cul-de-sac, is generally firmly adherent, and not infrequently there is a prolapsed and adherent ovary and tube, rendering reposition difficult and hazardous, not to say painful to the patient. As very many practitioners can testify, the uterus is occasionally unable to empty itself when in this position, and the extraction of fetal and placental débris may require exceptional skill. The operation is done when the uterus is very soft and easily damaged, and, moreover, the diseased and adherent adnexa add other and important reasons for proceeding with great caution.

I. S. Stone.

1309 H St., N. W., Washington, D. C., January 26th, 1892.

# DISINFECTION BY POTASSIUM PERMANGANATE AND OXALIC ACID.

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS, ETC.

Dear Sir:—Will you kindly insert this note in your journal, stating my recent experiments demonstrate that saturated solutions of permanganate of potassium and oxalic acid are not germicidal to streptococcus and staphylococcus aureus or albus in pure culture upon silk threads which have been infected for twenty-four hours. My assistant has been working on this subject for several weeks. I am as yet unable to explain the remarkable difference between the experiments made upon the hands and the severer tests applied in the bacteriological laboratory.

Yours truly,

HOWARD A. KELLY.

905 No. Charles St., Baltimore, Md., February 20th, 1892.

# TRANSACTIONS OF THE ALUMNI ASSOCIATION OF THE WOMAN'S HOSPITAL, NEW YORK.

Seventh Meeting, held in New York, January 19th and 20th, 1892.

The President, E. C. Dudley, M.D., in the Chair.

## PRESIDENT'S ADDRESS.

Dr. Dudley said that when he was honored by an election to the office of President of the Alumni he understood that he was not to be called upon for an address, yet on arriving in the city to attend the meeting he was informed by the executive committee that an address was expected of him. Of course the executive committee, and not he, was destined to be disappointed. He would mention some things, however, which he might have dwelt upon had he really prepared an address. He would have said, for instance, that it seemed to him many of the alumni made a mistake in remaining in New York, for here there were a few very eminent men who, like a grand oak with wide-spreading branches, effectually shut off the sunshine from all younger aspirants to life and fame.

He would advise them to go East, to go South, and, possi-

bly, a few more might be welcome West.

He would also have referred to the fact that the fame of the Woman's Hospital had rested largely upon the services which had there been rendered in the field of plastic surgery. In other words, the greatest strides there made the past fifteen years had been upon the perineal side rather than upon the peritoneal side of the pelvic floor. He would suggest that if the graduates of this hospital expected to move forward on the crest-wave of gynecological success, they would have to give more attention to the peritoneal side.

Dr. Thomas Addis Emmet read a paper entitled

THE INCLINED PLANE AN IMPORTANT AID IN THE TREATMENT
OF DISEASES OF WOMEN.

He said that while the profession had frequently heard him express his opinion upon this subject in a general way, yet he had not, as he proposed to do in this paper, given the results of his experience in the practical application of the inclined plane in overcoming blood stasis, etc., in certain pelvic conditions. First he described some of the gross changes which took place in the pelvic tissues, particularly in the blood vessels, in states of subinvolution, displacements, etc. He had long taught that the more tortuous the veins in the female pelvis the smaller was their calibre, so that in the normal state the circulation within them corresponded with that in the arteries. Any prolonged state of prolapsus beyond what he had termed the health line must straighten out the veins, and then from an accumulation of venous blood the blood vessels became distended, and in time many of them dilated into receptacles for stagnant venous blood. He had also taught that the pelvic fascia and other tissues must preserve a normal relation to one another, since if that relation became disturbed changes would take place in the circulation which were similar to those seen in prolapsus uteri.

Local peritonitis was one of the most common causes of change from a healthful condition in the blood vessels. The change took place from adhesions to neighboring tissues, whereby too much traction was exerted in one direction, while in another all proper support was lost. Both the veins and arteries followed a more tortuous course in the pelvis than elsewhere. When the arteries were drawn into approximately a straight line, a decidedly increased amount of blood would flow through them. This effect, however, was limited, so that when over-extension was practised, as in strongly drawing down upon the cervix during hemorrhage, the calibre of the vessels would be diminished and consequently lead to diminution of blood flow. This effect might also follow

great elevation of a fibroid tumor of the uterus.

All were familiar with the relief afforded in certain conditions by the knee-chest position, during which the pelvic and abdominal viscera fell in the direction of the diaphragm. This relief was still further enhanced by ballooning the vagina. It was to be at least largely accounted for by overcoming the stagnation in the circulatory system. The same thing took place, as he had long since pointed out, when the woman was placed on her back, with the limbs drawn up, and the uterus, by pressure with the index finger, was slowly lifted. In prolapsus, by filling the vagina with pledgets of wool soaked in vaseline, much good could be accomplished in reducing the size of the overdistended pelvic veins. But to obtain permanent benefit it was necessary to correct the position of the uterus and keep it in the corrected position sufficiently long to allow the blood vessels to regain their tortuous course. By the use of a pessary under a full appreciation of the cause and conditions attending the displacement, one could accomplish very much in the way of relief. In other pelvic conditions than those of uterine prolapsus, the later symptoms were largely due to an altered relation of the blood vessels brought about by inflammatory deposits and adhesive bands. The proper relation between the connective tissue and blood vessels was lost, so that too great traction was exerted in one direction while want of support existed in another. Whatever temporary benefit might seem due to the use of the pessary after the inflammation had disappeared, no permanent good could be obtained unless the slack in the connective tissue was taken up and the pelvic veins resumed their tortuous course, by which their calibre would be reduced and the pelvic circulation diminished.

In his work on gynecology he had described the method of curing procidentia practised by a country physician. It consisted in keeping the patient in the knee-chest position constantly for two or three weeks, and the use of white-oak bark in the vagina. Dr. Emmet was convinced, however, that the benefit was due to the position almost entirely. But such a method was possible only among patients of the colored race, who were satisfied only to sleep and vegetate. This position permitted the uterus to return to its normal place, the blood vessels to contract and assume their proper shape.

Incidentally Dr. Emmet stated his belief that the action of ergot was not directly upon the uterine tissue, but upon the blood vessels, which it caused to contract, lessened the uterine circulation, and diminished the size of the uterus. By the posture treatment practised by this country physician, rapid involution of the uterns and vagina was brought about as the pelvic circulation was diminished; and since the position was maintained long enough for the tissues to recover

their tone, the women remained cured.

Coming now to the practical application of these principles, Dr. Emmet said we had in the treatment of diseases of women a most valuable adjunct in the continued use of the inclined plane. While he recognized the tendency in human nature to exaggerate the value of any given procedure, he yet did not hesitate to give it as his observation that there seemed to be scarcely any condition of disease in the female pelvis which was not benefited to some extent by maintaining the recumbent position, with the foot of the bed elevated from twelve to eighteen inches. If it were not elevated as much as twelve inches the benefit would not be derived, because the intended effect of gravity on the pelvic organs and circulation would not be obtained. Having recognized the efficiency of this posture treatment for ten years, and noticed that patients were thus often enabled to get sleep who with-

out it lay awake all night, he was at first disposed to attribute it to increased blood supply in the brain, but later he became convinced that it was due to lessened circulation in the pelvis. He had never tried it on patients who were fleshy or suffering from cardiac trouble. Several patients had continued its use from choice after the indications for it had ceased, because they were better able to sleep in the juclined

than in the horizontal plane.

The position was of marked value in the treatment of enlarged and prolapsed ovaries, in threatened attacks of pelvic peritonitis, and in cases of pelvic inflammation where tamponing of the vagina had so often proven of benefit. Indeed, he had cured several cases of tubal disease in this The relief had been most prompt in irritation of the bladder, which so often attended local peritonitis about the utero-sacral ligaments. It was a matter of experimentation to find what degree of elevation was necessary in a given ease to afford relief. One woman with a fibroid tumor bled much less after assuming this posture, and what was apparently rapidly becoming a large growth was checked in its progress. The treatment could be carried on for weeks without any loss of strength, but, on the contrary, with gain if attention were given the general condition. Unless there were some contra-indication, massage would often prove a useful adjunct.

A most interesting case treated in this way was that of a woman who had suffered repeatedly from attacks of peritonitis, rigors, elevation of the temperature, slight discharge of pus from the vagina. When Dr. Emmet examined her there was a pus tube about the size of his wrist; the uterus was fixed and crowded against the bladder; her general and local condition was so unpromising that he had not the courage to operate for removal of the tubes until he should have tried to improve her health. Having already had several cases recover without an operation, he had less hesitation in giving this patient the benefit of the inclined position. The foot of the bed was elevated eighteen inches, free drainage took place from the tube through the uterine canal, and in less than a week the temperature became normal. Her improvement was such that she was allowed to get up in the morning to undergo local treatment in his office, but the pus then ceased to flow, there was increased pain, rigors and temperature elevation returned. Then she was kept in the inclined plane constantly, and at the end of five weeks the discharge of pus had diminished, the temperature had been normal, she had menstruated once, and she was allowed to go home. Under ether examination the tube was found reduced in size to about that of the little finger, the uterus was smaller, movable, in normal

position, and in every way there was a remarkable change for the better. Since returning home she had continued to im-

prove, but was not yet well.

In closing, Dr. Emmet said that if those who should resort to the method would not look upon it as a cure-all, but as a valuable adjunct, they would not be disappointed.

Dr. W. H. Baker, of Boston, said he understood the questions for discussion raised in the paper were: The physiology and pathology of the pelvic circulation; the relation of certain displacements of the uterus to that circulation; the good effects obtained by a certain position; also the good effects upon the blood vessels, the veins in particular, produced by supports; and, finally, the advantages to be derived from the inclined position. The great objection to the genu-pectoral position was the difficulty of maintaining it; it was very tiresome, and practically impossible for a patient to maintain any length of time. But in elevation of the hips by raising the foot of the bed we had a position which could be maintained with comfort a long time, and from which he thought much good might be derived. He would take great pleasure in trying this treatment.

Dr. H. C. Coe said the writer had in this paper expressed really new ideas in a way to make all feel that they had themselves long entertained the same thoughts. In fact, all the discoveries and inventions of Dr. Emmet were so convincing in their simplicity that every one was impelled to exclaim,

"Why did I not think of that before?"

The speaker had been very strongly impressed with the suggestions contained in the paper. The paper opened up a field of treatment applicable not alone in minor pelvic cases, but possibly also in operative ones. Probably all had wondered why some plan could not be devised for preventing adhesions of the intestines after laparatomy. He would throw out the suggestion that possibly by keeping the foot of the bed elevated, as Dr. Emmet had described, adhesions would be less likely to form after invading the peritoneal cavity. There were other conditions in which this posture might doubtless prove useful, and which had not been mentioned in detail in the paper. Dr. Frank P. Foster had several years ago suggested the value of vaginal douches in special posture, and this idea might be carried out still further with much profit under the suggestions contained in Dr. Emmet's paper. The paper certainly formed the basis for much consideration and future work.

Dr. A. P. Dudley expressed his pleasure in listening to a paper which contained so striking a practical application of knowledge of the pelvic circulation in the normal and patho-

logical state. Of the many lessons which he had been taught in the Woman's Hospital, he prized most highly of all that relating to the restoration of the pelvic circulation, which Dr. Emmet had laid so much stress upon. He was glad that in the present paper this point was made to stand out so boldly that others equally or more valuable could not obscure it. He thought the Trendelenburg posture was only an ap-

plication of the ideas taught by Dr. Emmet.

Whenever a woman came to him for treatment, the first thing which he considered was whether the pelvic circulation was normal, and, if not, how he could remedy it. He was free to confess that he had not made as many abdominal sections the past year as the year before, nor as many two years ago as three years ago—a fact which he attributed to a closer study of his cases. If gynecologists generally were to carry out more thoroughly the teachings enunciated by Dr. Emmet these many years, they would be able to report fewer abdominal sections.

Dr. A. F. Currier thought the mechanical principle stated by Dr. Emmet would prove very useful in its practical application by the inclined plane. A somewhat analogous case was one of phlebitis which he had recently seen, and in which

he gave much relief by elevating the leg.

Dr. R. W. Wilcox wished to express his appreciation of the paper. It was another proof of that wonderful ability of the author to observe facts and draw from them practical deductions. The facts had existed ever since woman had been in existence, and their practical application in detailed cases had occurred repeatedly, as in the elevation of an injured foot on a foot-rest in the bed. To his mind the paper was, without its being so intended, a sufficient refutation of the dark thought expressed by the President that the field for future triumphs on the part of the alumni of the Woman's Hospital would have to be in abdominal surgery.

Dr. H. C. Coe read a paper on the subject of

#### TAMPONADE OF THE UTERUS.

He said that, in order to secure brevity, he would confine himself to a few practical points on which he would invite discussion, omitting details. After referring to his observations of the use of the tampon in the Woman's Hospital many years ago, when it was employed in bleeding fibroids, but in a faulty manner; and also to Dr. Polk's suggestion, a few years ago, based largely on theory, to apply it within the uterus under certain conditions, and his later paper giving actual experience, the author passed to a consideration of the conditions in which the uterine tampon was now considered indi-

cated. The profession had hitherto, he said, shown almost a superstitious fear of invading the uterine cavity—a fear which was fast passing away since we had learned that it was sepsis and not trauma that created most mischief in gynecological treatment.

The use of the intra-uterine tampon was indicated, first, to control hemorrhage: (a) from the non-puerperal womb after removal of growths; (b) from the puerperal uterus either after abortion or at term. Second, to prompt uterine contraction: (a) of the non-puerperal uterus after removal of growths, etc., the organ remaining, as in certain puerperal cases, in a state of subinvolution; (b) in puerperal cases where placing a foreign body in the uterus stimulated it more powerfully than astringent injections. Third, to promote healthy granulation of the raw surface after curetting. Fourth, to secure permanent

dilatation of the canal in order to promote drainage.

Dr. Coe related briefly the histories of some cases illustrating the value of the uterine tampon under these various conditions. The first was a case of large sessile fibroid which he removed by the scissors, and controlled severe hemorrhage promptly by introducing iodoform gauze within the cavity. The second case was one of accidental hemorrhage during labor at term, to which he was called in consultation. The doctor had controlled the bleeding by keeping the hand within the uterus an hour and a half, but on removing it the bleeding recommenced. Dr. Coe was unable, on arriving, to feel the pulse. Gauze was introduced into the uterus and saline solutions were injected into the circulation. The hemorrhage was thus controlled, but the patient died after several days of pelvic peritonitis.

The next case related was one of endometritis fungosa, the hemorrhage from which was controlled for some months by curetting with the sharp instrument and application of astringents. On the patient's return she was again curetted with the sharp curette, the cavity irrigated, a tampon of iodoform gauze was left in three days and replaced two or three times a week for two weeks by fresh gauze, after which the patient became

pregnant.

The fourth ease was one of Bright's disease with hydramnios. The patient's physician induced labor; there was entire absence of uterine contractions. Dr. Coe saw her at the completion of forty-eight hours; found the cervix very rigid; it was necessary to make multiple incisions; there was placenta previa. After about an hour he succeeded in emptying the uterus, then stuffed it with iodoform ganze, which caused it to contract and controlled hemorrhage. The patient succumbed, however, from the shock of the operation, which was

the most difficult obstetrical procedure which he had ever undertaken.

The fifth case related was one of complete atrophy of the uterus and post-partum hemorrhage. The child was taken out with forceps; the post-partum hemorrhage was controlled by introducing gauze, which induced contraction. The patient was in desperate condition, but made a good recovery.

Another case was one of carcinoma of the body of the uterus, in which bleeding was checked by introducing a tampon of iodoform gauze and drainage was secured. A few days later laparo-vaginal hysterectomy was done, and it was seen that the tampon had secured previous drainage and induced healthy granulations to spring up. Another similar case was referred to. Some seemed to think the gauze interfered with drainage and healing, but he was unable to understand the arguments on which the view was based. It was the cavity of the uterus, not the cervix, which was tamponed; only a strip of the gauze protruded from the os.

The gauze was kept in two forms, the one in pieces of good size for post-partum eases, the other in narrow strips for non-puerperal eases. In the former the gauze had to be put into the uterus by the handful at a time, while in the latter it was introduced by forceps. It could be safely left in two or three days. The same preparation of the patient and precautions should be observed as in abdominal surgery. Reference was made to the advantages of the gauze over stem pessaries, etc. It was unirritating, antiseptic, could easily be changed at one's

office, etc.

Dr. Andrew F. Currier, in discussing the paper, read the history of two or three cases. The first was a case of repeated hemorrhages attending pregnancy; finally he induced abortion and introduced iodoform gauze to control hemorrhage. A polypus attached by a pedicle within the uterus was recognized, but it was thought best not to remove it at this time. It was removed subsequently. He thought the tumor had been the cause of the repeated hemorrhages. The case taught him that there might be circumstances under which it would be best not to subject the patient to further immediate interference, especially if proper instruments were not at hand, but to introduce the tampon and control hemorrhage, leaving further operative procedure for a subsequent occasion. The second case was one of almost constant hemorrhage since the patient's last miscarriage some weeks before. He curetted the uterus and packed it with gauze dipped in creolin solution, repeated it half a dozen times every other day. The hemorrhage was thus checked.

He would advise the tampon in nearly all cases of abortion. Its advantages were to be summed up in the word drainage.

It stimulated the uterus to contract, prevented subinvolution, prevented the accumulation of secretions, furnished an egress for everything which should not be retained by the uterus. He thought the tampon was even more important than the curette. In one case of incomplete abortion he had put in gauze, which caused the remains to be discharged.

Dr. A. P. Dudley thought there was some risk run in using iodoform gauze prepared in glycerin. It had caused poisoning in at least one of his cases. He would not leave the gauze in over two days. He thought the chief indication of the tampon was drainage; next, to stimulate the uterus to

contraction.

Dr. Locke said he had seen the tampon used a great deal at Roosevelt Hospital, and he had also employed it in private practice. He thought it was specially desirable to call to it the attention of the general practitioner, who so often first saw cases of hemorrhage after abortion or labor. In a paper on the treatment of abortion in Roosevelt Hospital he had resently shown that the principal measure consisted, after removing the remains, in tamponing the uterns with gauze. He emphasized the point that the tampon not only induced uterine contraction after labor or abortion, but also retraction, thus bringing about permanent, not simply temporary, cessation of hemorrhage. In this way it possessed much advantage over hot water or iodine, these often inducing only temporary contraction and control of hemorrhage. The tampon was also excellent in securing drainage. They did not leave it in often longer than twenty-four hours. They used benzin gauze, dry, and not glycerin gauze, not wet gauze. A striking case in illustration of the value of the gauze was one of puerperal eelampsia with a large amount of albumin in the The curette was passed a number of times to induce abortion, but, as usual where it was desired to produce this effect, it failed, and he had to dilate. Suddenly a very forcible stream of blood projected into the operator's face. Finally this was controlled by hot water and iodine, but the control was only temporary. After clearing the uterus a tampon was introduced composed of three and one-half vards of iodoform gauze. This was followed by contraction, and there was no further trouble from hemorrhage.

The President remarked that, in order to get the best results from the uterine tampon, it was desirable to have a light tampon in the vagina, the latter being kept dry. This secured much better capillary drainage. He mentioned a case of large uterine fibroid, extending up to the umbilieus, attended by hemorrhage, in which he tamponed the uterus, which not only controlled the hemorrhage, but caused such contraction that there was very appreciable diminution in the size of the

tumor, so much that it would have given considerable satisfaction to even the greater lights in the Apostoli treatment had it followed galvanism.

The President's reference to galvanism in the treatment of fibroids led Dr. McGinnis to ask whether he had ever used it

for the control of hemorrhage in such cases.

THE PRESIDENT said he had often, and usually with success.

(To be continued.)

# TRANSACTIONS OF THE NEW YORK STATE MEDICAL SOCIETY.

Meeting of February 2d and 3d, 1892.

Dr. George Seymour, of Utica, read a paper entitled

ASEPSIS AND ANTISEPSIS IN OBSTETRICAL PRACTICE.1

Dr. Andrew F. Currier, of New York, thought the matter recognized to-day as of the greatest importance in obstetrics was cleanliness. There was not so much call for antiseptics as there was a few years ago. We could at least do without powerful chemical antiseptics; it was known that these had in the past frequently done harm. Parturition, it should be remembered, was a physiological act. In lower animals it was seldom attended by any mishap. In general practice many of the details which had been suggested as desirable to carry out in the lying-in room were really impracticable. Who could expect, for instance, to establish the conditions of cleanliness of a laparatomy room in the homes of those living in tenement houses? And when it came to the homes of the rich, the changes which had been suggested were not so necessary, since these were cleanly in their habits and usually had a trained nurse. With cleanliness, and drainage of the uterus where it contained any foreign or decomposing substance, we could expect success in midwifery.

Dr. Simon Baruch thought it was extremely important that we should distinguish between antisepsis and asepsis in normal conditions. Leopold did not allow even students to make a vaginal examination in midwifery cases. In normal cases it was unnecessary and liable to establish a septic for an aseptic condition. Dr. Baruch had seen many cases of obstetrics when practising in the South, but sepsis was unknown, and he for-

<sup>&</sup>lt;sup>1</sup> See original article, page 355.

bade the nurse doing what he would not do himself—insert the syringe or finger where all was going well. It was different in abnormal labors.

Dr. Seymour closed, and said that, so far as labor being a physiological process was concerned, according to his observation about fifty per cent of the cases were not demonstrations of a natural law, but followed a more or less abnormal course. For that reason improved methods in midwifery, especially those relating to asepsis and antisepsis, were of very great value. Meddlesome midwifery all condemned, but records bore out the statement that in cases following other than a perfectly simple course the person in charge was often the cause of sepsis. Antiseptic methods had reduced the accidents markedly and should cause still further reduction.

Dr. Ralph Waldo, of New York, read a paper on

# THE TREATMENT OF ENDOMETRITIS.1

Dr. A. F. Currier was glad that the time had come when diseased conditions within the uterus were treated on the same surgical principles which were applied in abscess cavities elsewhere. There were cases of endometritis which had baffled all former methods of treatment, but which he thought could be made to yield to curetting and drainage. If there was any one agent superior to others in the treatment of diseases of the uterus, it was the tampon; yet the curette was not to be undervalued because the tampon might take a higher place. He quite agreed with the anthor that escharotics had very properly been abandoned. They were likely to do damage.

Dr. Walter B. Chase, of Brooklyn, strongly doubted the

propriety of using caustics within the uterus. He also said that the danger of rapid dilatation of the uterus in the past had evidently been due to sepsis rather than to trauma, for the same procedure under the present rules of strict cleanli-

ness was free from danger.

Dr. H. E. Hayd, of Buffalo, thought each case of endometritis should be treated on its own merits. The more advanced the disease the more radical would the treatment have to be. He thought many of the worst cases could be cured by the adoption of the plan recently published by Dr. Polk, that of rapid dilatation, curetting, and stuffing the uterine cavity with iodoform gauze. Some cases would also call for the application of tincture of iodine or of carbolic acid. He agreed with the other speakers in condemning such caustics as nitric acid, etc.

Dr. George Seymour said that one might infer, from much that had been said and written about endometritis, that the

<sup>&</sup>lt;sup>1</sup> See original article, page 342.

uterus was an organ which had no physiological connection with the rest of the body. He did not wish to decry the valuable methods of treating endometritis spoken of to-day, yet he must express the belief that many cases of inflammation of the appendages and adjacent tissues were caused by the mismanagement of endometritis in its earlier stages. In his own practice he had been able to do as much toward curing the endometritis by attention to the patient's constitutional condition as by local treatment. In just so far as one could get the digestive or assimilative and circulatory functions into a healthful physiological state, would he succeed in the treatment of endometritis. There had been no department of medicine so much neglected as the therapeutics of hygiene in diseased conditions of the uterus.

Dr. R. B. Talbot, of New York, had for the past nine years made dilatation by the gradual method, beginning with a small dilator and going up until a sufficient size was reached. Two dilators might be used at a single sitting, and the procedure be repeated twice or even three times a week. The patient remained at rest the remainder of that afternoon. He had not for six or seven years been called to a patient's home on account of inflammation set up by this procedure, and he was unable to understand why some men regarded it as so dangerous. He inserted a spiral stem to keep the cervix open following the treatment. It seemed to him that to leave iodoform gauze in the uterus was inviting trouble, for it certainly was a foreign body. The point was to get drainage, and this was secured by liberal dilatation by the gradual method, which he thought was safer than the rapid method.

Dr. Waldo closed the discussion. While he believed in dilating with the steel dilators, yet he did not approve of exten-

sive or reckless dilatation.

Dr. Andrew F. Currier, of New York, read a paper on

AMPUTATION OF THE VAGINAL PORTION OF THE CERVIX UTERI IN CASES OF SUSPECTED CARCINOMA.

Perhaps the term provisional amputation, or "exploratory excision," would better express the object of the proposed operation, since it is suggested as a means of completing an unsatisfactory diagnosis. Collaterally its object is to avoid hysterectomy in the absence of a lesion sufficient to warrant that operation. It will be generally admitted that the examination of scrapings from the endometrium or of bits of tissue from the vaginal portion is often unsatisfactory and inconclusive, and the removal of sufficient tissue to admit of careful and thorough study may so mutilate the organ as to offer no advantages to amputation. The proposition is to a certain

extent analogous to that of preceding the resection of the intestine by colotomy. It is in harmony with the author's frequently expressed views in favor of early diagnosis, and hence of the necessity that the general practitioner seek the advice of the specialist whenever a patient suffers with a stubborn erosion or ulcer of the mucous membrane of the vaginal portion or with hemorrhage from the endometrium for which he cannot satisfactorily account. The suggestions of this paper have no bearing upon cases in which the existence of malignant disease is clear and unmistakable. For such eases hysterectomy is the proper procedure, or palliative curetting and canterizing if hysterectomy is inadmissible. The fact that doubtful cases have frequently been brought to the anthor's attention, and the knowledge that the uterus may be and has been removed when malignant disease did not exist, have furnished the occasion and excuse for this paper. The conditions which render diagnosis difficult in the class of cases under dis-

1. Endometritis with or without hemorrhage from the interior of the uterus.

2. Hyperplasia with or without fissure of the os and endometritis.

3. Erosions, ulcers, and glandular disease.

I. Endometritis is a comprehensive term. The simple catarrhal form does not concern us at present, and its importance is frequently overestimated. If there is a manifest inflammatory process, with a more or less abundant discharge of pus, blood, or mucus, curetting will often be necessary, and the scrapings should be carefully examined. If improvement does not ensue in a few weeks, the discharges of pus, blood, and epithelium continuing, and the microscopical examination also having proved inconclusive, the vaginal portion should be amputated. Then we shall be enabled to determine whether anything more radical will be necessary, and no harm will have been done if it is demonstrated that the disease is purely inflammatory.

II. Hyperplasia of the vaginal portion may suggest the infiltration of malignant disease, and it may occur in both parous and nulliparous women. The unusual size is an element of suspicion. If there is increase in size and density, and also fissure of the os and eversion of the endometrium, the suspicion of malignant disease will be a reasonable one. For such cases amputation will often be preferable to trachelor-rhaphy, as it will give us an abundance of tissue for examination, and it has been the author's experience that plastic operations upon dense and badly nourished tissue are not likely to

give satisfactory results.

III. Erosions, ulcers, and glandular disease of the vaginal

portion are frequently mistaken for malignant disease. Erosions are usually accumulations of granulation tissue, which should disappear after curettement and the removal of the endometritis or other morbid condition by which they may be caused. If a cure does not follow such treatment the vaginal portion should be amputated. Ulcerations, apart from those which are clearly malignant, may be traumatic, syphilitic or chancroidal, rodent, and papillomatous. An ulceration which is at first benign may become malignant after a longer or shorter period. A sufficient number of well-anthenticated cases are on record to prove this statement. Amputation is indicated if healing does not follow other methods of treatment. Glandular disease has derived importance from the careful investigations of Ruge and Veit upon this subject. They teach the necessity of the greatest watchfulness in all cases in which this condition is present. The use of astringent and caustic applications upon ulcerated tissues may arouse an incipient malignant disease to increased activity, hence there is always a certain amount of danger in their use. This statement is supported by the author's personal experience as well as by a number of recorded cases. The amputation of the vaginal portion is suggested in preference to the high amputation of Schröder and Baker, at this time, because of its superior importance as a means of diagnosis, and the lesser degree of injury which it inflicts upon the uterns if malignant disease is not present. It will be equally curative with the more extensive operation in a certain number of cases in which malignant disease is in its incipiency. Amputation of the vaginal portion will also be of service occasionally in cases in which malignant disease and pregnancy coexist, and the pregnant condition may not be interfered with. Nothing new is offered in regard to the method of performing the operation, which is usually a simple one. It is usually performed by the author with curved scissors and tenaculum or volsella, though in cases in which the tissue is very dense a knife will frequently be found preferable to scissors. The circumstances connected with each individual case will determine whether it is better to canterize the wounded surface of the uterus, to allow it to granulate, or to cover it with the contiguous mucous membrane of the vagina.

Mr. Graily Hewitt, of London, sent a

NOTE ON LACERATIONS OF THE CERVIX UTERI.

Mr. Hewitt regarded the symptoms following lacerations of the cervix as largely due to disturbance of the circulation of the blood and lymph. Another effect was more or less cervicitis, doubtless due to abrasion of the raw sur-

faces. The same symptoms might be present in either superficial or deep lacerations. Irritation might set up inflammation and so-called ulceration. This might cause hypertrophy and eversion. Cicatrization at the deepest portion of the wound was a well-known effect, and by pressure on nerves no doubt caused much of the suffering present in these cases. With regard to the influence of lacerations in the production of cancer, Mr. Hewitt said it was hard to give data. Cancer of the cervix was far more likely to occur in women who had practised sexual intercourse than in virgins, yet he had never seen a case in which the cancer could be indubitably assigned to the laceration. Some doubts had been expressed as to the propriety of an operation, but the author thought it might be considered indicated, since it was generally successful in relieving the discomforts traceable to the pathological condition present; further, because the lesion seemed to favor cancer.

Dr. Chase remarked that it was interesting to note the agreement between Mr. Hewitt's views and those of Dr. Emmet.

Dr. Hayd, of Buffalo, thought the paper implied much more than the casual listener might suppose. He said that in his opinion all cases of laceration which had led to a cauliflower condition of the cervix demanded an operation. In lesser lesions he had been able to do much with galvanism.

Dr. B. F. Sherman agreed with the last speaker. He thought the stellate laceration never demanded a surgical operation. He had often healed slight wounds without su-

ture.

Dr. George M. Edebohls said it had been very properly stated that the majority of lacerations of the cervix required no operative procedure whatever. Turning his attention to the large hyperplastic lacerated cervix, with eversion of the cervical mucous membrane and degeneration of the follicles, demanding an operation, he thought it was better usually to make circular amputation than to do trachelorrhaphy. Unilateral trachelorrhaphy left a scar and distorted the cervix somewhat, which was avoided by the circular excision, and the latter left the cervix more patulous and the mucous membrane out of the way of future irritation.

Dr. Chase did not think a well-performed trachelorrhaphy necessarily left retraction of the canal or cicatricial tissue, and he could not understand why one should amputate the cervix when it could be restored to its natural condition.

Dr. Charles Jewett, of Brooklyn, read a paper entitled

TWO SUCCESSFUL CASES OF THE CONSERVATIVE CESAREAN SECTION.

The operations were performed in Long Island College Hospital last December. The first patient was aged 32, and, with the exception of chronic nephritis and lumbo-sacral kyphosis, was in apparent good health. Twice after the operation there was partial suppression of urine, which was relieved by dinretin. The deformity was not so great but what craniotomy could have been easily performed, but in deference to the patient's religious faith—she being a Catholic—Cesarean section was made. The pulse was weak and there were already signs of approaching exhaustion. The child was living and was extracted within four minutes after the abdominal incision was made. In both cases a soft-rubber tube was tied around the cervix. The uterus was drawn into the abdominal wound, but not out of it. The uterine incision reached well up on the fundus. The placenta was separated with the hand. The deep sutures were of silk, the outer ones of catgut. Little blood was lost. Reaction promptly followed slight manipulations and the injection under the skin of half a drachm of fluid extract of ergot. At no time was there evidence of sepsis. After the eighth day there was an occasional slight rise of temperature, which was controlled by quinine. Five grains of calomel were given toward the end of the second day, followed by a saline. The abdominal sutures were removed on the tenth day.

The second case occurred in a German girl who was subject to hysterical attacks and occasional convulsions, which were followed by coma lasting days. A notable feature was an irregular and excessively high temperature, which on one occasion reached 110° F. After being very high it would fall within an hour or two to nearly normal. There were signs of beginning consolidation at the apex of one lung, and the patient also had syphilis in the second stage. The true diameter was estimated at two inches and a half. Labor began about the sixth month or later. The fundus was above the umbilicus. The waters had escaped. While piecemeal extraction of the fetus would have been possible, yet craniotomy through so narrow a pelvis would have been very difficult. Cesarean section was decided upon, mainly in the interests of the mother, although not entirely without hope of finding a viable child. There was protrusion of intestine owing to flatus; the cervical constrictor was used. The placenta was found attached anteriorly. Its left edge was separated and the child was extracted, and, although viable, it soon ceased to live. In neither of these cases was any careful cleansing of the peritoneum called for. Some serum and fluid blood were

left in the peritoneal cavity. The same steps were taken in the last as in the first case. The temperature after the operation became better than it had been for weeks before. There was some tympanites about the fourth day, which disappeared promptly with a movement of the bowels. There were no bad symptoms attributable to the abdominal section. The patient was rapidly gaining in weight and in health.

The only other case in which Dr. Jewett had operated by the Sänger method was in 1883, the indication being cancer of the cervix and inability to effect dilatation. Unfortunately there was ervsipelas in the hospital at the time, and the pa-

tient died of peritonitis.

In his comments upon the two recent cases, Dr. Jewett said pains were taken to make the operation as nearly clean as possible. The floor had been wet to keep down dust. He deviated from Sänger's method in using the elastic tube around the cervix instead of the elastic band. The tube having thin walls, it spread out over a large surface and seemed not to have at all impaired the contractile power of the uterus. A vital point in Cesarean section was accurate and secure closure of the uterine incision, which the modern method effected. It was the custom of Sänger also to wipe the uterine cavity with folded gauze, but Dr. Jewett thought it more rational to let it alone where there was absence of infecting fluids. The antiseptic douche and scrubbing were not only uncalled for in cleanly cases, but were injurious. In septic cases the uterus might better be amputated. A careful peritoneal toilet was by most deemed essential, yet in the two cases reported little attempt was made to cleanse the peritoneum. The healthy peritoneum, such as we had to deal with in these cases, would be less injured by the presence of a little blood than by sponging or irrigation. Moreover, handling increased the risks of adhesions. The usual peritoneal toilet, therefore, could be almost wholly omitted if one avoided the escape of amniotic fluid or of much blood into the peritoneal cavity. Besides the conditions mentioned, success depended also upon reasonable rapidity of operation and the early use of a saline cathartic. He thought that Cesarean section should come to give better statistics than laparatomy for disease.

(To be continued.)

## TRANSACTIONS OF THE NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, January 28th, 1892.

EGBERT H. GRANDIN, M.D., afterward R. A. MURRAY, M.D., in the Chair.

Dr. Robert A. Murray was elected Chairman, and Dr. J. Clifton Edgar re-elected Secretary, for the ensuing year.

The Section, on motion of Dr. Edebohls, gave a vote of thanks to Dr. Grandin for the able, impartial, and faithful manner in which he had discharged the duties of Chairman the past two years.

#### TUMOR OF EXTRA-UTERINE PREGNANCY.

Dr. Florian Krug presented a tumor the size of a hen's egg, with thick walls and containing a small fetus, which he had recently removed in a case of tubal pregnancy. It was one of four cases operated upon in the same week. This patient was brought into the operating room by the house surgeon just as he had completed an operation for tubal pregnancy in another case, the house surgeon supposing this case to be one of incomplete miscarriage demanding curetting of the uterus. The tumor was felt on examination, and Dr. Krug arrived at once at the diagnosis of extra-uterine pregnancy, in which opinion the other gynecologists present disagreed, believing it was a fibroid. The operation four days later justified Dr. Krug's diagnosis, and the patient made a good recovery. The very firm and thick walls of the sac had misled the others in their diagnosis.

Dr. G. M. Edebohls said that in his opinion, where laparatomy was performed and the fetus not found, three conditions would justify the diagnosis of extra-nterine pregnancy, namely: 1. Rupture of the tube. 2. Thickening of the tube walls. 3. Considerable effusion of blood into the peritoneal cavity.

Dr. H. C. Coe remarked upon the appearance of the sinuses in the walls of the tumor presented, which reminded him of those seen in uterine pregnancy, and led him to sug-

<sup>&</sup>lt;sup>1</sup> See also page 249, this Journal.

gest that the considerable hemorrhage which took place after rupture in these cases could be accounted for in this way rather than as coming from the blood vessels. Dr. Edebohls' remarks were suggestive in distinguishing between hemorrhage from ruptured tubal pregnancy and that from a hemato-salpinx, etc., for in the latter the tubal walls would be found atrophied, while in the former they showed thickening from growth.

Dr. A. P. Dudley said he had had two cases of laparatomy in which the fetus was not found after its escape from the ruptured sac, and he expressed the opinion that a closer search would usually reveal it up toward the diaphragm among the intestines, which were capable of transporting it

by vermicular action.

Dr. Murray thought it worthy of attention that in this case, as in many others, there was a history apparently of abor-

tion, presumed to be uterine.

Dr. Krug said the history, as had been suggested by the Chairman, was very important from a diagnostic point of view in these cases. It was nearly the same in all four of his There would be a history of a woman having menstruated regularly; then she would be two weeks, or perhaps only four or five days, over time; then there would be some hemorrhage with an unusual amount of pain, then more hemorrhage and more pain; then a physician would be called, who regarded it as a case of incomplete miscarriage; general peritonitis might set in and soon destroy life, or the case might go on until rupture occurred, with violent pain and fainting. In cases giving such a history an examination should be made, and, if the uterus were found empty and a tumor on one side and behind, an operation should be undertaken, and in all probability extra-uterine pregnancy would be proven; or, if not, something else which required removal, do not, in such cases, fall back on electricity, etc., with a view of killing the fetus.

#### CONGENITAL DISLOCATION AT THE KNEE.

Dr. T. J. McGillicuppy presented a baby which was found in breech presentation; then during his absence for an hour it was born, an intelligent nurse being present, who, however, did not interfere at all. After birth the left knee was found dislocated and somewhat reddened. Both limbs were bent up over the abdomen, but the left leg was twisted on the knee and subluxated. He reproduced the original position before the members, although the knee was by that time becoming firmer and less easily dislocated.

Dr. Charles Jewett suggested that since the knee showed some evidence of trauma, and yet there had been no opera-

tive interference, probably the dislocation took place during labor by compression against the pelvic walls.

Dr. Robert L. Dickinson read a paper on

THE DIAGNOSIS OF PREGNANCY BETWEEN THE SECOND AND EIGHTH WEEKS BY BIMANUAL EXAMINATION.

It was based on examination of thirty-three selected cases, doubtful ones being excluded. In these the whole number of examinations was torty-five. Immediately after each examination he made a drawing of the uterus, representing its outline, and by shadings showing the relative hardness or softness in different parts. This conveyed more exact ideas of the condition present than words could do.

The further history of the cases had proven the correctness of the diagnosis of pregnancy. The starting point was

from the last menstrual period and subsequent coitus.

His observations showed that the most valuable early sign of pregnancy was bulging or bellying of the body of the uterus. It was present in ninety-six per cent of the cases, becoming manifest in a few instances before the twentieth day, uniformly by the twenty-eighth. It was most frequent on the anterior surface of the body, forty per cent; next on the posterior surface, twenty-five per cent; might show itself on the side where there were lateral adhesions. Next came elasticity or resiliency, due to change in consistence, present in eighty per cent of the cases, a little later than bulging. The next sign was compressibility of the lower segment of the uterus, or Hegar's sign, which was both later and less constant than the others, being present in only sixty-six per cent of his examinations. One other sign was folding or puckering transversely in the walls of the uterus. case he made a mistake, stating to the woman that there was a strong probability of pregnancy, which proved to be incorrect, and the explanation came later when he learned that the uterus might vary its shape from contractions even in the unimpreguated and senile condition as well as in the impregnated. In this patient the change was probably due to venereal excitement. A subsequent examination corrected his first impression.

Dr. H. C. Coe thought it would require considerable familiarity with one's case in order to be able to detect the delicate changes in outline and consistence of the uterus mentioned by the author. In cases of subinvolution, retroversion, and adhesion of the uterus he thought the difficulties would be even greater. Personally he had had few opportunities to apply bimanual examination at the early dates mentioned.

Dr. H. L. Collyer said his attention was first called to the value of a bimanual examination in determining early pregnancy by Dr. Grandin. This gentleman, he believed, was first in this country to give the subject study, supposing he was observing Hegar's sign, but in reality something different. Dr. Collyer had read a paper before the Metropolitan Society about a year ago in which he described the changes taking place in the uterus during the early weeks. While the bulging mentioned by the author was present, and a valuable sign, yet he placed it second in importance to elasticity of the uterus, this latter quality distinguishing pregnancy from other forms of enlargement, say subinvolution or hyperplasia. Where a flattened, doughy condition was present at the fundus it indicated threatened abortion.

Dr. Charles Jewett thought that a diagnosis of pregnancy could be made with a great deal of certainty by the second month where two or three examinations were obtained. While recognizing the value of globular enlargement mentioned by Dr. Dickinson, he also emphasized the significance of the resiliency or softening referred to by both that gentleman and Dr. Collyer. The softening was not of a doughy nature, such as was found in edema, and it should not be confounded with a change in consistence of the uterus brought

about by contraction.

Dr. Egbert H. Grandin said that his pioneer paper on this subject, as it had been brought to the attention of the profession in this country, was written about 1884, when he supposed he was observing Hegar's sign, but, as others had said, it was different from Hegar's sign. He then expressed the opinion that by bimanual examination one could, under favorable conditions, make a presumptive diagnosis of pregnancy by the sixth week. It was necessary to be able to get the uterus between the fingers of the two hands. There was no danger of mistaking the bulging and resiliency mentioned already for hyperplasia and subinvolution.

Dr. Vineberg thought much experience would be necessary to detect the slight differences mentioned, and especially not to be deceived by uterine contractions brought about by

manipulations.

Dr. J. C. Edgar had been relying mostly on Hegar's sign, so far as bimanual examination was of value, but in the future he would search for the puckering and for intermittent contractions, etc., believing that a combination of signs was more reliable than a single one.

Dr. Cole mentioned the value of a purple hue at the os, which was very distinct in one of his cases by the third week.

Dr. Cushier remarked that she had frequently observed uterine contractions during examination, both in young girls

and elderly subjects as well as during the child-bearing period. The uterus during the contraction would assume the hard,

ball shape observed in early pregnancy.

Dr. R. A. Murray called attention to the difference in shape of the uterus according to the position it was found in; if it were raised during the examination, it would differ from the rounded, bulging shape present in early pregnancy with the uterus somewhat descended. One was also in danger of changing the shape and consistence of the organ by inducing contractions. He also mentioned a difference in size and depth of the uterus in the normal state, according to the build of the person. He would not rely on the other signs in early pregnancy without the presence of the softening and elasticity dwelt upon by Dr. Collyer.

Dr. Dickinson, in closing, said he also recognized a combination of signs as more valuable than a single one. But with the globular condition conjoined with the elastic quality early pregnancy could be safely diagnosed. He thought we should cease to speak of these as Hegar's sign, and rather call

them the bimanual signs of early pregnancy.

(To be continued.)

# TRANSACTIONS OF THE OBSTETRICAL AND GYNECOLOGICAL SOCIETY OF WASHINGTON.

Stated Meeting, November 6th, 1891.

The President, Dr. W. W. Johnston, in the Chair.

Dr. George P. Fenwick read the paper of the evening, on poliomyelitis anterior.

Dr. H. B. Deale, in opening the discussion, said there seemed to be little to add to what had already been said by Dr. Fenwick in his paper. There was general unanimity as to the symptomatology of the disease. The few cases he had seen were limited to dispensary practice. Had not seen a case in the Washington Foundling Asylum in the sixteen months that he had been connected with it. The etiology of the disease was obscure, no positive cause having been assigned. Hereditary influence was not great. As to the diag-

 $<sup>^{\</sup>scriptscriptstyle 1}\,\mathrm{See}$  original article, page 348.

nosis there could be little doubt. The diseases with which it might be confounded were cerebral paralysis and general myelitis. Dr. Fenwick had spoken of apparent shortening of affected limb; it was real, and due to lack of nutrition of the bony as well as other tissues. An interesting and misleading point is an infiltration of fat globules between the muscular fibres after atrophy has begun, thereby disguising the true condition. There is no question as to the location of the lesion, it being admitted to be in the anterior horns of the cord on one or both sides. The function of the cells is interrupted or destroyed, and atrophy is the result.

The disease is not fatal in itself. Some intercurrent disease may carry off the patient. In those cases that have died early after being affected by the disease, the macroscopic appearance indicates nothing. Microscopically there is softening, multipolar cells are absent, nervous tissue is atrophied, the transverse striæ of the affected muscles are destroyed and the fibres infiltrated with oil globules. In the treatment two measures are indicated—electricity and massage. Other means are of minor consideration. Massage and electricity, however, should not be employed too soon. Later on, in the resulting deformity, surgical interference becomes necessary.

Dr. S. C. Buser inquired of Dr. Deale the duration of the fatal cases in which the lesion described by him had been found; to which Dr. Deale replied, two or three weeks, but death was due to some intercurrent disease. Dr. Busey, continuing, said he had not seen a case in which death occurred early in the disease, and no case in which death was solely attributable to the disease. Until recently little was known as to its pathology, and it had been generally regarded as a peripheral or functional paralysis. Now there was very great unanimity among observers in regard to the lesion of the cord, and whilst he did not doubt the correctness of these observations in chronic cases and in cases dying of intercurrent diseases, and perhaps in some acute fatal cases, he could not believe that such grave lesions were constant in the acute cases which recovered. He believed many of the acute cases recovered after a duration of one or two months without any special treatment, and no medication other than some simple fever mixture during the period of fever. In such cases he could not believe there was any serious spinal lesion. He related a case in which the nurse discovered, on taking the child from bed in the morning, that something was wrong with the movements of its lower limbs. He found the child paraplegic, with a history of having been exposed in the street the day before. The paralysis developed abruptly after the child was put to bed; the fever continued several days. The treatment consisted in keeping the child warm in bed during the febrile stage, with continuous attention to the condition of the alimentary tract and nutrition; later on massage and manipulation of the limbs. Recovery was complete. At a later stage of persistent cases electricity may prove advantageous. The disease was not necessarily progressive.

Dr. C. E. Hagner said that it was very difficult to make a diagnosis in these cases. One of the eases reported by Dr. Fenwick, the third one, was very like paralysis of cerebral origin. One important symptom had been left out—in paralysis due to poliomyelitis anterior the muscles are flaccid, while in paralysis of cerebral origin there is rigidity. He thought Dr. Busey was mistaken in saying that many of the cases get well. He believed that where early recovery occurred the paralysis was of reflex origin or due to thrombosis. The treatment consisted in attention to the alimentary canal and the application of electricity. In the use of the latter agent it was of the utmost importance not to use the faradic current, as that stimulated the muscle to contraction and might do harm by exercising the muscle. The object should be to improve the nutrition of the muscles, and this was best done by the continued or interrupted galvanie current.

Dr. S. S. Adams said he agreed with Dr. Busey that there was no cerebral connection with the disease. The cases that he had observed developed suddenly. The child usually has been out at play one day, and the next it is found to be paralyzed in one or both lower extremities. He had recently attended a case for Dr. H. L. E. Johnson in which the cause of the paralysis was due to exposure to cold. In this case there was polyuria, which indicated that the trouble was in the lumbar region. He said that he thought that most of the acute cases got well; if not, what became of them !—as few cases were seen upon the streets. Nearly all of the cases seen by him in fourteen years at the Children's Hospital recovered.

Dr. G. N. Acker said there were several cases at the Children's Hospital that had had the disease for three or four

years.

Dr. Adams the cause of the disease was undoubtedly taking cold. The weather had been rather cool and the child had been wearing merino stockings. These were removed and the child was allowed to go out and play. It was a little drowsy before bedtime, and the next morning when it awoke it was paralyzed. There was retention of urine and constipation. In a few days motion returned in one leg; the other was still disabled, but gradually improving. The flexors were first to recover their function, the extensors later. He related a case as having occurred in a child at Columbia Hospital, which was paralyzed soon after having been laid on the

grass in the yard. It recovered in a few days with no other treatment than being kept warm. He also mentioned a case that occurred on board a boat on the Potomac River, the

child being exposed to cold. It recovered without treatment.
The President, Dr. W. W. Johnston, said that the initial lesion was one of congestion, afterward degeneration. As to treatment, he agreed with Dr. Busey that careful attention should be paid to nutrition and warmth. In chronic cases the medical and surgical treatment was important. Dr. V. P. Gibney, in a recent article in the Medical News, gave a very interesting report of the treatment of chronic cases. The weak muscles were prevented from recovering by the antagonism of the well ones. Hence the treatment was section of the opposing muscles and fascia and the putting of the limb in splints so as to secure absolute rest. After a time gradual exercise was to be employed.

Dr. T. C. Smith mentioned the case of a young woman who is now 23 years of age. In infancy she became suddenly paralyzed. Her right arm is shrivelled and entirely useless. The lower limb is deformed, but is of some use in locomotion. Notwithstanding these defects, the girl married. He attended her in labor, anticipating trouble, but as the pelvis was capacious the delivery was comparatively easy. He mentioned this case to show that some of these paralytics are

abroad.

Dr. Fenwick said, in closing the discussion, that seveneighths of the acute cases, if treated early and properly, would get well.

#### TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF CINCINNATI.

Regular Meeting, October 8th, 1891.

The President, Dr. E. W. MITCHELL, in the Chair.

Dr. C. D. Palmer read a paper on

PERIODICAL INTERMENSTRUAL PAIN.1

Dr. B. Stanton thought ovarian dysmenorrhea often neuralgic in character, as shown by the result of treatment, antineuralgic remedies giving entire relief to the pain. The pain might be due to inflammation or inflammatory deposits, and yet occur only at the time of ovulation, a hypersensitive condition of the ovary existing at the time.

<sup>, &</sup>lt;sup>1</sup> See original article, page 328.

It is a generally conceded fact that ovulation may occur in the intermenstrual period, and these cases of regularly recurring pain, commonly called ovarian dysmenorrhea, are regarded rather as cases of painful ovulation. The fact that pain recurs in a given case at about the same time each month, and that it often occurs alternately on the different sides, as does ovulation, would seem to confirm this belief.

It is possible that the pain may be due to malaria in some cases, but that it is not always so is shown by the fact that these cases are met with in seasons and places in which malarial troubles do not occur. He had seen several cases of this affection. In one case there was intense pain for two days in each month, coming on ten days before the menstrual period. In another case, in addition to the intermenstrual pain, there was a neuralgic dysmenorrhea at the time of menstrual congestion. This case was treated at the clinic of the Miami Medical College, but passed from under his care be-

fore recovery.

Dr. A. W. Johnstone said that, after closely observing several cases under his observation, he had found that the premenstrual pain became worse at the time it was supposed that the Steavenson pressure was on the increase. In his opinion the cause of pain was to be sought for in the variations of this pressure. He remembered a case of infantile uterus where there had been intense intermenstrual pain. He had dilated the os and had used nearly everything suggested for the relief of pain, but to no avail, and at last resorted to the extirpation of the appendages. Careful investigation elicited the fact that the ovary was comparatively normal, but had been pressed down behind the broad ligament and held in this position by adhesions.

As the pain in this case had always occurred when the Steavenson pressure was at its lowest, he was at a loss to account for it, and the only way that suggests itself is that these adhesions occurred during the time of congestion of the parts, and that, on account of the shrinkage when the Steavenson pressure was at its lowest, these adhesions were put on the stretch and produced the pain. He believed there is such a thing as neuralgia of the ovarian sympathetic; at the same time, however, he believed that comparatively few of

these cases are truly neuralgic in character.

Dr. E. G. Zinke thought that in almost every case of socalled ovarian neuralgia there was present some disease of the pelvic organs. He had operated once on account of almost continuous pain, when nothing abnormal could be found. The patient has never had a recurrence of the pain.

Dr. C. A. L. Reed said he had seen many cases of intermenstrual pain and could not always account for it. The

theory that ovulation is the chief factor in producing this kind of pain does not seem to be plausible, for it is an acknowledged fact that ovulation does not occur in rhythmic succession, like these periodical attacks of pain, which occur regularly, as has been stated in the cases reported this evening.

He believed that Dr. Johnstone furnished the explanation -the ebb and flow of the internal pressure, which comes and goes at regular intervals. He had a Jewess on hand now who has considerable intermenstrual pain and some pain during menstruation. In hopes that she might become pregnant, he had not proposed any operative interference. In his experience those ovaries that are not tangible are the most diseased. He had reported a case to the Academy of Medicine in which he could not account for the pain by the theory of ovulation and rupturing of a matured Graafian follicle, because we may have regular pain and irregular ovulation. In many of these cases there is follicular degeneration. He could not agree with the essayist that operation is not salutary unless there is evidence of gross disease. In some cases which he had operated on he had seen splendid results from the operation when there was no tangible evidence of gross disease to be found or made out by examination.

Dr. Geo. E. Jones had seen many cases of intermenstrual pain, mostly occurring periodically a certain number of days before or after menstruation. One case had come under his observation only a few weeks before. Six days after menstruating the pain became so severe as to make life almost unbearable. Upon examination he found contraction of the vagina and an infantile os. Some practitioners warmly recommend opphorectomy, but, in his opinion, there is no certainty that the operation will relieve the pain, because the trouble is not seated entirely in the ovary. He knew of several cases which had become worse after the operation in

stead of better.

Dr. G. S. MITCHELL was of the opinion that operative procedures had not proven a success in relieving pain when the operation was done solely with that object in view. He had operated on a case about one year ago in which he only took out one ovary, because pain was confined entirely to that one side. Now the patient is worse than before the operation, and he hesitated whether or not to take out the other, as he could not be confident that the pain would be relieved by the second operation.

The so-called neuralgias of the ovaries are getting fewer every day. No doubt there are cases purely neuralgic in character, and these cases can best be controlled by electricity and massage. In cases where we can find no evidence of disease, it is strange that the ovaries should occasion so much pain; and unless there is evidence of disease upon thorough examination, he would advise great caution about operating.

Dr. R. B. Hall took exception to the statement that operative interference was warranted only when there was evidence of gross disease. He would certainly always recommend an exploratory incision, and if the ovaries were healthy let them alone; if not, then take them out. There is no doubt but that the ovary can be in a state of follicular degeneration, even contain pus, and not be appreciably enlarged so as to permit of an accurate diagnosis by examination in the ordinary way. He felt confident that in the cases reported by the essayist this evening there exists some degene-

rative change in the ovaries.

Dr. C. D. Palmer, in closing, said: There is very little which I desire to say in addition to what I read in my paper. I am glad that this subject has evoked such interest. It seems to me that many of the cases referred to by the members are not of the same variety as those which I have called "periodical intermenstrual pain." Gennine cases of the kind reported by me are very rare, while cases of intermenstrual pain, preceding or following menstruation, irregular as to the time of occurrence and duration, are by no means infrequent. I have heard nothing this evening to cause me to alter my opinion as to the nature of cases of periodical intermenstrual pain. I am well convinced that they are not purely neurotic or malarial. Of course the neuralgic element is very apt to be an element of the pain in time, but it is not the primary element. In my judgment, as expressed in my paper, some structural change in or about the ovary is the underlying cause of all these symptoms. The underlying morbid condition is either extra- or intra-ovarian, and, as stated, it may, as a last resort, justify an oophorectomy.

# TRANSACTIONS OF THE NEW YORK OBSTETRICAL SOCIETY.

Stated Meeting, January 19th, 1892. The President, Clement Cleveland, M.D., in the Chair.

Dr. H. C. Coe presented

A LARGE OVARIAN CYST WITH A TWISTED PEDICLE.

This specimen was removed from a patient who had been operated upon at the Woman's Hospital, November, 1890. She had been treated previously by another physician for a long-standing procidentia. There was a small tumor, ap-

parently connected with the uterus, and several physicians who examined her considered it to be a fibroid. The uterus measured four inches in depth and the patient suffered considerably from a menorrhagia. In October, 1891, she had an attack of acute pelvic inflammation. At that time she was seen by the speaker in consultation, and he found the tumor had increased in size. There was pain and tenderness in the right inguinal region, and on abdominal palpation an elongated mass could be felt which appeared to be a pyosalpinx or an abscess of the ovary. Five weeks ago the tumor was distinctly larger and fluctuation could be detected. Examination under ether showed on both sides, but most marked on the left, a distinct cord, larger than a lead pencil, extending from a point on the lateral walls above the pelvis almost to the neck of the bladder. The patient was seen by Dr. Cleveland, who agreed in the opinion that this cord was an injured ureter. Laparatomy was performed, and the thick wall of an ovarian cyst was found in front of the uterus, attached by a long pedicle which had become twisted on itself three times. Hemorrhage had occurred into the cyst, which was formerly adherent to the bladder and to the abdominal parietes. The cyst was removed in the usual manner. On the right side was a large cystic ovary, which was also removed. By conjoined manipulation, made by the speaker, assisted by Dr. Cleveland, the cords which had been considered to be large ureters were found to be no longer present. The patient made a good recovery, and an examination, just before her discharge from the hospital, showed nothing abnormal in the pelvis. The median situation of the cyst in front of the uterus, the existence of adhesions and of obscure fluctuations, seemed to justify a diagnosis of fibroid cyst, although such a condition might easily be mistaken for pregnancy. In fact, he had had two such cases under examination for about six months, and they simulated pregnancy so closely that he had not been able to convince the patient that this condition was not present. The cause of pelvic peritonitis in this case just reported was not quite clear, but it probably resulted in the twisted pedicle. The only explanation he had to offer for the mistake in diagnosticating enlargement of the uterns was that possibly, owing to the peculiar location of the cystic ovaries, the pedicles lay in contact with the lateral fornices in the position usually occupied by the uterus.

Dr. A. F. Currier presented

A SMALL INTRA-UTERINE MYOMA, THE CAUSE OF REPEATED ABORTIONS.

The patient was 30 years of age, married five years, and

had been pregnant four times. She aborted the first two times at the second and third months, and the third abortion occurred in 1889 while she was in Berlin under the care of two eminent gynecologists. Her last menstruation was on September 11th, 1891. She was first seen by the speaker on November 29th, and was found suffering from frequent and very profuse hemorrhages. All attempts to prevent a miscarriage were futile, and rupture occurred on December 13th. A tampon was introduced into the vagina and cervix for twenty-four hours, but, as at the end of that time there was no prospect of dilatation, this was accomplished artificially and the fetus and membranes removed. Exploring the uterine cavity with the finger to make sure that all had been removed, it was discovered that a polypus was attached to the fundus of the uterus near the left horn, which could not be detached by any means at hand. On January 6th, 1892, the uterus was again dilated. It had, of course, undergone involution, and some difficulty was experienced in producing sufficient dilatation to enable the easy introduction of the index finger of the operator. The contraction of the womb had fixed the tumor in the left horn, where it was almost inaccessible. By means of a tenaculum and a polypus forceps the wire écraseur was passed over the polypus. After the removal of this tumor the uterus was irrigated with an antiseptic solution and packed with iodoform gauze. Recovery was nneventful.

It is interesting to note in this case that repeated abortions had been produced by the presence of this tumor, which was only discovered by accident, and which might readily escape the notice of the most skilful physician. The speaker also wished to emphasize the importance and value of the uterine tampon, both before and after operation, in connection with cases of this kind, viz., intra-uterine tumors, and cases in which abortion is imminent.

The President presented a

#### PAPILLOMA OF THE OVARY AND OVARIAN CYST.

The patient, Miss A., was admitted about four days ago to the hospital. She is 33 years of age and single. Menstruation began at 16 years of age and has always been regular. Last April the abdomen was observed to be uniformly swollen, but there was no pain except the discomfort from the weight of the fluid. She was tapped on December 13th and three gallons of light-brown fluid withdrawn. The abdomen rapidly refilled, and at the time of the operation, January 18th, it was as large as on December 13th. Dr. Kletzsch assisted in the operation. Before beginning her pulse was

106 and a distinct blowing murmur was heard at the pulmonic orifice. The abdomen was opened by a median incision three inches in length, which was afterward increased to five inches. At first the peritoneum was merely nicked to allow slow escape of the ascitic fluid. After the withdrawal of this fluid the incision in the peritoneum was enlarged. An ovarian cyst was found, surrounded by adenomatous growths, and with some difficulty these were removed. As there was some surface oozing, the pelvis was packed with fifteen yards of gauze, which was allowed to extend about one inch beyond the abdomen. The incision was closed, all but two inches. At the completion of the operation her pulse was 140. At first the drainage was very profuse, but the patient is now doing very well, although the pulse is still quite rapid.

The President also presented a specimen showing

#### A CALCAREOUS MASS TAKING THE PLACE OF THE LEFT OVARY

There was no deposit on the intestines or peritoneal surface, except low down in the pelvic cavity on the left side, where several small nodules were felt projecting from the surface. Evidently these papillomata had disengaged themselves at this point.

A third specimen was also presented, showing

PAPILLOMA OF BOTH OVARIES AND OF THE OMENTUM.

Mrs. M., 31 years of age, was admitted on December 3d. She had been married ten years, but had no children. The menstrual history was negative. In June, 1891, an abdominal enlargement was first noticed. This has increased rapidly during the last six weeks, accompanied by emaciation. The largest circumference was forty-one inches, and the distance from the pubes to the ensiform cartilage was eighteen and one-half inches. The patient had been seen by two other surgeons, and the diagnosis had been made of cyst with ascites. An abdominal incision was made and the ascitic fluid The omentum was discovered to be adherent to the bladder, and, after pushing this aside and placing the patient in the Trendelenburg posture, both ovaries were seen to be covered with papillomatous masses so deeply embedded as to make it impossible to remove either ovary. The omentum which presented was adherent to the intestines, uterus, and other adjoining structures, and was filled with cysts varying in size from that of a pea to that of a robin's egg. Both her ovaries were cystic and the tubes distended. A portion of the cystic omentum was removed for diagnostic purposes and the wound closed. The patient died from the shock twelve hours after the operation. Pathologists reported the case to be one of cystic papilloma. The chief interest in the case lies in the fact that the omental papillomata were caused by the dislodgment of some of these particles from the ovary and their implantation on different portions of the omentum,

where they had begun to proliferate.

Dr. W. G. Wylle considered the case interesting because at this stage any operation was only palliative, although justifiable if one could be sure of the degree of malignancy. In one case where he had removed such a growth, although three years had elapsed since the operation, the patient was perfectly well, yet before he had operated upon her she had been turned away from another hospital as a hopeless case. Where tumors are discovered in women in the abdomen or pelvis the wisest plan is to open the abdomen. Many of these cases of papillomata begin within the ovary, and hence if they are removed early while confined to this organ a cure may be expected. After the development of ascites, however, there is but little prospect of relief.

Dr. Hanks desired to emphasize the importance of early operation in cases where tumors were found in the female pelvis with a tendency to the development of ascites. Regarding the question of recurrence, he desired to refer to a case which had been sent to him about three and one-half years ago by Dr. R. Osgood Mason. The patient was very anemic and the abdomen filled with fluid. There was an ovarian cyst with papillomatous degeneration. A large quantity of ascitic fluid was removed, as also the tumor, yet within one year a similar tumor had developed on the opposite side. The papillomatous growth in this instance sprouted out from the pedicle. This tumor was also removed, and it is encouraging to note that the patient is still alive and able to do light

work.

Dr. Currier asked about the etiology of these cases, as he thought an opinion was becoming quite prevalent among pathologists to the effect that some lesion or injury was the basis for the development of growths of this character. More than one year ago an operation was performed upon one of his patients for retroflexion with fixation. One of the ovaries was found considerably enlarged and diseased, so, following out the suggestion of Dr. Polk, a portion was excised and the organ returned. In about six weeks there was a recurrence of the pelvic symptoms, and on opening the abdomen for the second time it was found that the papillomatous cyst had developed in connection with each ovary, and that there was also an extensive peritonitis which had given but slight outward manifestations. The adhesions were extensive, and the papillomata had all formed adhesions to the intestines. She

was operated upon subsequently by another surgeon, who found no traces of these growths. Owing to the great liability to error in cases where there is a large quantity of fluid, it is well that the diagnosis should always be given with reserve.

Dr. H. C. Coe commented upon the beauty of the specimen presented, which was not a papillomatous cyst, but a pure papilloma of the ovary. He had repeatedly called attention to the character of the ascitic fluid. No one had, as yet, explained why it was that sometimes with very large and malignant tumors there was no ascites, while in other cases a small, insignificant papillomatous growth on the ovary is accompanied by extensive ascites. The presence in the ascitic fluid of those corpuscles with which all are familiar was, in his opinion, of great diagnostic value, so much so that he almost felt justified in making a diagnosis of malignant disease when these corpuscles were present. He thought Dr. Mundé would bear him out in this statement in regard to a diagnosis so made in one of his cases. This seemed to be a very positive statement, but it was based upon eight or ten cases in which he had had an opportunity to verify the diagnosis. The existence of these large groups of cells was even more important than bloody ascitic fluid or any of the ordinary signs. He had found these cells in cases where it was impossible to recognize any tumor in the abdomen. He thought their diagnostic value had been too much disregarded, and he would like to hear a further expression of opinion on this subject.

Dr. Paul F. Mundé recalled four cases of papilloma of the ovary associated with ascites, ascites being the chief symptom. The first one occurred four and one-half years ago, and it had induced him to disagree with Dr. Coe's view that these cases are always malignant. The patient had been tapped several times before coming to him. Performing laparatomy, he found papillomata of the ovaries, uterus, bladder, and rectum, and the parts so matted together that nothing could be done towards removing them. Several pieces floated out and were reserved for examination. Hemorrhage was so profuse that the abdominal cavity was irrigated and the wound closed. After about one month the abdomen refilled with fluid and a second operation was performed with a similar result. time a drainage tube was left in for about two weeks. One year later the patient was in perfect health. There had been no return of ascites, and the tumor was harder and smaller than at the time of operation. Her physician had reported within the last month that she was still in excellent health and that the tumor was perfectly hard, instead of being soft and irregular as at the time of operation. In a second case, where an exploratory incision was made to clear up the diagnosis, a general papillomatous degeneration of all the pelvic organs was found, and their removal was likewise prevented by adhesions and hemorrhage. The patient was not under Dr. Mundé's care, and he was informed that she died of tympanites and vomiting. In a third case, which he saw in consultation with Dr. Thomas, he diagnosticated papillomatous ovaries on account of the existence of ascites and the hard feel of the vaginal roof. Dr. Thomas and Dr. T. A. Emmet disagreed with him, but at the operation there were found to be papillomata of both ovaries, about the size of those which had just been exhibited. The patient made a good recovery. In the cases which he had seen there was no cachexia, which he considered an important point in determining the malig-

nancy of these growths.

He was not inclined to believe in the malignant character of these papillomatous growths in their inception, and he thought if thoroughly removed they would not return, but if not thoroughly removed, especially from the intestines or the omentum, or after transplantation, a recurrence was almost sure to occur. If allowed to go on until the peculiar corpuscles appear in the fluid, he should consider the growth then to be malignant. In the case referred to by Dr. Coe, where the abdomen was greatly distended with fluid, and on opening it he found an encapsulated ascites with carcinoma of both ovaries and tubes, it was not until after he had removed the tubes and ovaries that he discovered that the liver was also carcinomatous. He did not think the diagnosis of these cases could be made except by exploratory incisions, on account of the presence of so much fluid, although in these cases the vaginal roof is usually more or less infiltrated with

peritoneal exudation.

DR. G. M. EDEBOHLS had a case to offer bearing upon the malignancy of this condition. Some years ago, when these papillomatous growths were found transplanted to the peritoneum, a uniformly unfavorable prognosis was given. Quite recently a series of cases had been reported, in nearly one-half of which no recurrence had taken place for one or two years after operation. He had personally met with only one papillomatous ovarian cyst, and in this instance the very thin walls The cyst contained were filled with papillomatous masses. very little fluid and had ruptured at various places before the operation. Some papillomatous masses were found free in the peritoneal cavity. The cyst was extirpated and the free masses washed out. It was thought at this time that the papillomatous growth had started at the bottom and had almost filled up Douglas' cul-de-sac, it being fixed to the rectal, uterine, and lateral walls. On attempting to remove it the hemorrhage was so excessive that this idea was abandoned

and the abdomen closed. This operation was done three years ago, and when he last saw the patient, a few weeks since, she was not only perfectly well, but the growth had

atrophied, so that only a slight induration remained.

Dr. Malcolm McLean had been very much interested in the last speaker's remarks, and desired to call attention to the fact that it had recently been stated by a foreign authority that nearly fifty per cent of papillomata are amenable to treatment. He had reported to the Society last fall a case and presented a specimen of papilloma similar to the one just exhibited. In his case the right ovary was not involved, and it was thought at the operation that the left ovary had been secondarily involved by the mass springing up from Douglas' cul-de sac. He could not remove all of the growth from this peritoneal pouch. The woman recovered from the operation, but, for some as yet unexplained reason, an abscess formed and caused her death. It was then ascertained that the papilloma had in fact sprung from the left ovary. The fact that this case had recovered after incomplete removal of the growth was very important and should go on record. He desired to ask Dr. Cleveland whether inquiry had been made as to syphilis as the cause of the condition in his case.

Dr. CLEVELAND said that there was no history in his case of either injury or syphilitic infection. He thought that the enormous accumulation of fluid in these cases was the result of transudation by osmosis from the enormous surface presented by these papillomatous masses, although it is not improbable that the peritoneum was also active in the formation of this

fluid.

## Dr. W. G. Wylie presented specimens illustrating

#### SEVERE FORMS OF SALPINGITIS.

These specimens illustrated what he considered to be the worst forms of salpingitis, so far as surgical interference is concerned. In one case—the wife of a physician—the patient had been allowed to suffer for four years, the physician not knowing that relief could be obtained. She was 25 years of age and had been married eight years. Her first menstruation occurred when she was 14 years old, and the last menstrual period was on December 25th. This function had always been irregular, varying from three weeks to six months, the flow lasting from five to seven days and being very variable in quantity. The pain was very severe at the beginning, and was relieved only when the flow became quite free. The present illness began during the menstrual period when she was 18 years of age. At that time there was severe pain over the left ovary and she was compelled to remain in bed for thirteen weeks. For three years she suffered from severe

dysmenorrhea. The uterus was dilated with sponge tents and a small fibroid removed by a thermo-cautery. This operation was followed by an attack of peritonitis lasting three months, and then by a pelvic abscess of unknown origin. Menstruation ceased for at least six months after the removal of the fibroid. She had never been entirely free from pain since the first attack of peritonitis—pain principally in the left ovarian region. She sought relief chiefly for the dysmenorrhea. On examination the uterus was found fixed in the pelvis, rather small and with indurations in the broad ligament on either side. On January 9th she was etherized in order to complete the diagnosis and preparatory to possible laparatomy. The abdomen was opened and adhesions were found of omentum to the intestines. The uterus was somewhat retroverted and the ovaries could not be distinctly The peritoneum covering the tubes and ovaries was thoroughly organized, and it became so difficult to break up these dense adhesions that the operator was inclined to abandon the operation. The lesson to be learned from this case was the effect of repeated attacks of peritonitis in causing dense adhesions. The left ovary was adherent to the rectum, and he was of the opinion that there had been an abscess at this point. Enucleation was effected in such a way that only a very small portion of the ovary was left attached to the rectum. So far there have been no bad symptoms.

The second case was that of a woman, 25 years of age, who had been married nine years but had never been pregnant. Menstruation began at the age of 16, and the last period occurred on December 29th. The flow usually lasted from four to seven days and was accompanied by some pain. In 1886 she had what was probably an attack of gonorrhea. The present trouble began at that time, and in 1886 there was a sudden attack of peritonitis which necessitated her remaining in bed for six months. There were several recurrences of peritonitis, lasting about ten days. An abscess · burst into the rectum and pus was discharged in the stools. For the past three years, on account of the violence of her pain, she has become addicted to the use of stimulants. On examination the whole lower part of the pelvis was found to be filled with two tumors about the size of oranges, which were as firm and hard as fibroids. The cells contained about an ounce of pus mixed with mucus and blood. Her general condition, however, remained very good. On January 16th she was etherized and the abdomen opened, and, as in the other case, the omentum was found to be adherent. The adhesions about the rectum were especially difficult to separate, and on the right side was a free opening into the intestine, but he was unable to say whether or not the mucous mem-

brane was opened, so no attempt was made to close it. The two masses which he now presented to the Society were then enucleated. One of them contained about two ounces of very fetid pus. During the operation-which lasted an hour and a quarter-the pulse fell slightly, but she rallied promptly. After this she was very restless, although the temperature remained normal and the pulse was of fair quality. On the second day it was discovered that she was suffering from want of stimulants, and this fact should put us on our guard in operating upon these cases. It was his rule, when he knew that the patient was addicted to the use of narcotics or stimulants, to keep her under observation for some time previous to such operation. The abscess connected with the rectum was one of that variety which fills and discharges at intervals. His rule was to drain through the vagina before opening the abdomen, when this was practicable. Even after performing abdominal section he preferred, if possible, to drain through the vagina, close the abdomen, and do the radical operation later. Where the fistula opens into the intestines he thought they could be treated with little risk if the rectum were kept thoroughly cleansed and a drainage tube allowed to remain in the bowel to prevent the collection of gas. If the opening were deep in the pelvis and difficult of access, and the intestine fixed to the pelvic wall, he usually preferred to leave it untouched, although with the aid of the Trendelenburg posture he thought many of these could be closed without much difficulty. If, however, the gut were not so attached, it was better to close the fistula.

Dr. H. T. Hanks presented

A FORCEPS FOR HOLDING AND DRAWING UP THE UTERUS DURING LAPARATOMY.

This instrument had been devised because a tenaculum often slips and the two-toothed volsella forceps makes an



unnecessary number of wounds. This new instrument consists of two strong-handled tenacula joining together about two-fifths of the distance from the distal ends. The brads are one-third of an inch in length and bent at right angles,

and on each brad is a round, smooth button which prevents injury to the uterus. The volsella shanks are bent so that

the instrument is out of the way during manipulations.

Dr. G. M. Edeboils thought it was generally considered by gynecologists not desirable to make use of such instruments for holding up the uterus during laparatomy, and he thought it was a good principle to avoid using a hook or other instrument on the uterus if this organ is not to be removed. He had personally made use of the double tenaculum forceps, first to hold up the tubes and ovaries while they are being ligated, and, secondly, in nearly every case of ventral fixation. In the latter case the uterus was grasped by the instrument on the anterior surface between the tubes while the sutures were being inserted, and then the portion of the tissue grasped in the instrument was denuded. He did not consider that this procedure added anything to the risk of the operation.

Dr. Paul F. Mundé read a paper entitled

THE SURGICAL TREATMENT OF EXTRAPERITONEAL PELVIC EFFUSIONS.

He had chosen this subject because he wished to oppose the prevailing tendency to treat every form of pelvic effusion through the median line of the abdominal wall and to deny the propriety of evacuating such effusions through any other channel. Although aware that he was laying himself open to criticism both universal and severe, he felt that an expression of opinion based on a fairly large personal experience might be of service in preventing undue extension of the now fashionable operation of abdominal section. course, aware that at times an encapsulated intraperitoneal effusion might be mistaken for one situated in the cellular tissue, but practically the rules of treatment which he wished to lay down would apply to encapsulated intraperitoneal effusions as well as those anatomically and primarily situated outside of the peritoneal cavity. These effusions consist, first, of serum, which remains fluid, coagulates, is absorbed, or goes on to suppuration; and, secondly, of blood. Under the first head occasional suppuration ensues, giving rise to pelvic abscess. In the second class a pelvic hematoma arises from the rupture of a vessel between the layers of the broad ligament, this rupture being frequently due to the distention of the Fallopian tube by ectopic gestation. He excluded in his paper a consideration of cysts of the broad ligament, intraligamentous ovarian cysts and fibroids, tumors of the uterus, and echinococci cysts.

He advocated chiefly aspiration, incision, and drainage through the vagina, whenever practicable, and an avoidance of

opening the peritoneal cavity in all cases where the accumulated fluid can be evacuated without injury to the peritoneum. He did not advocate this plan of treatment because of any fear of touching the peritoneum, but because he was opposed to such a measure if the same result could be secured in any other or safer way. His advocacy of this method was founded not only on logical and anatomical reasons, but on his own experience. It was needless to say that he believed in the prompt evacuation of pus whenever it could be found and reached. The effusion of serum may occur in any part of the pelvis where cellular tissue exists, but the favorite spot is between the lowest portions of the broad ligament and between the vagina and rectum and Douglas' cul-de-sac. It may extend down to the perincum, or may dissect up the peritoneum nearly as far as the diaphragm. Such exudations may also occur between the bladder and the uterus, extending almost down to the symphysis pubis. In his experience suppuration occurred in about ten per cent of all cases of pelvic cellulitis, and the rectum was the most frequent channel for the spontaneous escape of pus. Next in order of frequency was its exit through the vagina, and it also might escape through the uterus and into the peritoneal cavity. All of these channels of exit are comparatively safe, except the last, when rupture usually proves fatal. Nature sometimes provides these methods of terminating cases, and very frequently the abscess "points" in one or the other direction. The most common spots for "pointing" are in the vaginal vault at one or the other side of the cervix, through the posterior vaginal wall, or through the skin covering the iliac fossa and inguinal groove. So far he had never found it advisable to open a pelvic abscess through the rectum. If it "points" through the vagina, the presence of pus having been determined by the aspirating needle, a sharp-pointed pair of scissors could be passed along the needle as a guide, its blades separated, and then a two-branched dilator passed in and screwed wide open. The cavity is next washed out with a 1:10,000 bichloride solution until the fluid comes out perfectly clear, when a white rubber perforated drainage tube, provided with a crosspiece which prevents its slipping out, is inserted into the cavity. The end of this tube is closed up by bending and tying it, and the vagina is also packed with iodoform gauze, which is changed as often as it becomes saturated. The cavity is irrigated with bichloride solution or with Thiersch's solution. After a week or two the tube will be crowded out, and the cavity may then be packed with iodoform gauze every two or three days. If it shows no tendency to close, the healing process may be stimulated by the use of iodine, nitrate of silver, or the curette. These cases are

undoubtedly tedious and frequently leave sinuses which are very hard to heal. In occasional cases he had even sewed in a tube with a flange and allowed it to remain for several months. When the abscess "points" through the abdominal walls, it should be opened by a free incision, the pus evacuated, and the eavity scraped with the finger or a curette and broken-down tissue removed. It is then irrigated with a weak bichloride-of-mercury solution and packed with iodoform gauze. In fact, the opening of such abscesses as "point" in the iliac fossa is the same as for any other abscess in the body. Healing in these cases is also quite protracted. The idea of calling such an operation a laparatomy or an abdominal section is absurd.

During the last few years he had opened forty pelvic abscesses through the abdomen, eighteen through the vagina, and four through the abdominal wall and vagina at the same time. In several cases he had punctured the vaginal wall in order to secure through drainage, abdominal drainage not being sufficient. In three of these cases, while drawing the drainage tube through from the vagina to the abdominal wound, the bladder was accidentally wounded, but, by leaving the catheter in the bladder and employing frequent irriga-

tion, the rent rapidly closed.

In a certain small proportion of cases of pelvic abscess, viz., abscess outside of the peritoneal cavity, the diagnosis of the exact location of the abscess may present some difficulty. It may simulate pus in the ovaries or in the Fallopian tubes, or be inaccessible through the peritoneal cavity. The aspirating needle may show the presence of pus, yet its exact location remain doubtful, so that the question arises as to whether it should be evacuated through the vagina or a true laparatomy be performed. In such cases Martin of Berlin, Wylie, Reed of Cincinnati, and others have suggested exploratory laparatomy in order to determine the exact location of the abscess, using the fingers in the peritoneal cavity as a guide. Having determined this, the abscess is opened in the usual manner per vaginam and treated as described for vaginal abscess, the abdominal incision being closed as soon as drainage has been secured. He had never adopted this method, but thought it might be desirable in some cases of adherent pyo-salpinx.

His treatment of effusions of blood between the layers of the broad ligament might excite some opposition. Briefly, he would say that, no matter what was the cause of the effusion, so long as it was extraperitoneal and could be reached safely and thoroughly through the vagina, he was opposed to opening the peritoneal cavity from above and treating it as though it was an intraperitoneal tumor. Whenever the aspirating needle, introduced through the vagina, revealed the presence of blood, and the contents of the mass could be evacuated through the vagina, he would always treat it in that way. He did not mean, however, to imply that every case of pelvic hematoma should be evacuated, for so long as the effusion was comparatively small and did not extend beyond the peritoneal cavity nor interfere with the patient's general health, and as long as it was not steadily increasing in size or undergoing suppuration, he would leave it alone surgically, trusting to time, rest, and opium for a cure. By the term hematoma he meant an extraperitoneal effusion of blood, while intraperitoneal effusions of blood he denominated hematocele. In this respect he was glad to see that Dr. Tuttle, notwithstanding his great success in operations for tubal pregnancy, agreed with him. Of course, if the sac had ruptured into the abdominal cavity, immediate laparatomy should be performed. Such extraperitoneal effusions of blood, whether due to intraligamentous rupture of a tubal pregnancy or to intraligamentous hemorrhage from some other cause, sometimes extend down as far as the perineum. The strength of the patient may suffer considerably from the drain on her blood supply, and the irritation of the peritoneum may cause inflammation of that membrane and more or less high temperature, which will complicate both diagnosis and prognosis. Such effusions should always be evacuated through the vagina when this is possible.

In 1885 lie had reported two cases, of ten weeks' and six weeks' duration respectively, in which thirty-six ounces and twenty ounces of dark grumous blood were removed through the vagina. Both patients made a rapid recovery. Since this time he had had six more similar cases, with equally good results. In one of these, being doubtful about the extra- or intraperitoneal location of the tumor, he had opened the abdominal cavity and carefully explored the relations of the tumor, and finding that if he opened the sac he could not bring the edges into the abdominal incision, he closed that incision and incised the sac through the vagina. The cavity was irrigated and drained and the patient made a speedy recovery. If he had not done this he firmly believed that death would have resulted from peritonitis or septicemia. In another similar case, where he experienced much difficulty in attaching the sac to the abdominal wound, a knuckle of the intestine was unavoidably brought into such close contact with the abdominal wall, it being adherent to the posterior wall of the sac, that its coats gave way and a fecal fistula formed, necessitating an operation for the close of the fistula. If this woman had been treated like the first one, he thought she would have been spared much pain and suffering. He had had six other cases of abdominal section to meet this indication. Of these two died, one with septic peritonitis, the other with persistent vomiting, probably due to intestinal obstruction. Another one of the cases had an abdominal fistula when she left the hospital. Careful cleansing and flushing of the peritoneal cavity rendered drainage unnecessary in all these cases. In none of his cases was a tubal pregnancy actually discovered—i.e., no fetal parts—but all showed signs resembling chorionic villi in greater or less degree. All the cases in which he evacuated the blood per vaginam recovered without a drawback. He did not include in this series two cases of apparent pelvic hematoma which he opened through the vagina and then found were really retroperitoneal sarcoma. The diagnosis was verified by microscopical examination, and both patients died from this disease.

When the hematoma is very large and extends toward the anterior abdominal wall on one side or the other, the incision may be made parallel to Poupart's ligament and the dissection continued until the extraperitoneal effusion is reached and evacuated. This necessitates a large incision and, of course, some loss of blood, so that surgical shock might be considered as a contra-indication to this treatment. He had in mind a very severe case of this kind, in which the enormous effusion ruptured in the vagina and was attended by such sudden and great shock and high fever that an immediate operation could not be performed. When the patient rallied on the following morning she passed into the hands of another surgeon, who opened the blood cavity from above, through the abdominal wall, without intending to open the peritoneal cavity. He informed the author that the latter was, however, opened accidentally, but was closed by suture. Notwithstanding the large incision, it was found necessary to make a second opening through the vagina. The patient eventually recovered. Dr. Mundé said that he had always thought that in this case the superior incision was entirely unnecessary. The method of operation in such cases must depend upon the accessibility of the effusion. When these blood cavities are opened through the vagina they usually heal up well, and in this respect differ markedly from pus sacs treated in this way.

In conclusion, he wished to say that as a practical laparatomist he was heartily in favor of laparatomy wherever it offers the best chances for the patient; but he thought we were too prone to do laparatomies, forgetting that Nature had provided channels of approach which could be utilized without incurring the risks attendant upon opening the abdominal

cavity.

Dr. W. M. Polk said that until the author explained to

them how to distinguish between extra- and intraperitoneal exudations, it would be difficult for some of those present to

discuss the paper.

Dr. Munde replied that in cases where he had found a more or less fluctuating, doughy mass situated above the vaginal vault to one side or the other of the uterus, and the uterus movable from above downward but restricted in its movement laterally, he would consider the exudation intraperitoneal. When a large, fluctuating, and doughy mass extends into the pelvic cavity below the level of the vaginal vault, and even of the cervix, and between the rectum and the vagina, or between the bladder and the uterus, he knew that it must be extraperitoneal, because there is no peritoneum in this location.

Dr. Polk said that the answer, so far as the author was concerned, was satisfactory, but he failed to consider the very patent fact that there are marked differences in the thickness of the vaginal roof, and that in some women, who have very thin vaginal roofs, the exudate might be in the peritoneum, and yet be in exactly the situation designated by the author as the site of extraperitoneal exudation. In addition to that, Dr. Mundé states that he makes the diagnosis of cellular inflammation whenever he finds the exudation low down, while, as a matter of fact, we all knew that the tendency of these purulent accumulations is to work downward, so that sooner or later they reach the location referred to. If the author meant to confine this description to cases where this condition exists at the beginning, there may be some chance for the difference of opinion. While the statement may be broad enough for Dr. Mundé "to stand upon," it is not broad enough for the majority of us to occupy along with him, because our researches made upon the operating table utterly fail to demonstrate any such condition as that named. Until we can be told definitely how to distinguish these conditions at the bedside, those of us who maintain that these exudations invariably arise from the tube and mean inflammation of the tube, of the peritoneum and ovary, must be excused for still holding this opinion. The paper reopens the old dispute about cellulities and intraperitoneal inflammation. Every symptom and sign which had been named as indicative of cellular inflammation he considered to be absolute evidence of physical and symptomatic intraperitoneal inflammation, and he was prepared to prove it on the operating table.

As to the question of treatment, he thought no one doubted the propriety of operating at the point toward which the abscess appears to be pointing. As in a large majority of cases it is in the direction of the vagina, that is where we should operate. In many cases, however, the exudation is difficult to reach from below, and the great advantage of opening from above is that it enables one to remove the tube or ovary, which is usually the centre of the purulent accumulation. Treated in the manner suggested by the author, many cases recovered without sinuses; but where these persist a cure can be effected by operating from above, for the reason just given. He believed it would be found that the location of these abscesses will depend entirely upon the location of the fimbriated extremity of the tube, and therefore the abscesses are generally situated high in the pelvis in one or the other of the iliac fossæ. If the condition of the patient be good, even though the abscess be situated high up, the treatment should be the

same as for a case of appendicitis.

DR. W. G. WYLIE said that he supposed the author would class him as one of the "ultra-laparatomists," yet he could not go as far as the last speaker in saying there is no such thing as pus in the cellular tissue. There was a limited but yet rare class, resulting from septic poisoning and occurring usually within the first ten days after labor. Under such circumstances the abscess should be opened through the vagina and drained. The cases we were once taught were chronic cellulitis are pelvic abscesses occurring a long time after labor. In over five hundred operations for diseases of the tubes and ovaries, from forty to fifty per cent had purulent accumulations, yet he had never found the pus anywhere but in the peritoneal cavity. The mistake on this point has been largely due to the fact that the moment the Fallopian tube or ovary is inflamed it sinks to the pelvic floor, the broad ligament is rolled backward and becomes adherent, and the tube is shut off from the peritoneal cavity. He employed the vaginal method where there was bad sepsis and the shock of abdominal section would prove almost certainly fatal. If the abscess points posterior to the plane of the broad ligament and can be readily opened without any risk of puncturing a blood vessel or injuring a ureter or opening an intestine, he punctured with a trocar and washed out the cavity. It not infrequently happened that patients were not cured and subsequently would require an operation for the removal of the tube and ovary. He had seen in Bellevue Hospital no less than five hundred cases, many of which had been diagnosticated by most eminent men, which were characteristic examples of what we used to term chronic cellulitis, yet in not one had an abscess been found in the cellular tissue. He had frequently found in the neighborhood inflammation of the tube and a thickened and edematous broad ligament.

Dr. H. C. Coe thought we could learn much at times from the general surgeon. He had seen two cases, one of ovarian cyst and one of pelvic absecss, operated upon by a general surgeon, and on these occasions the same operation was performed as would have been done for an appendicitis. The only criticism he had to offer on their method of operating was that they seemed averse to making a counter-opening in

the vagina.

Dr. H. T. Hanks said that whatever might be the original cause of pelvic abscess, we knew that it often happened that we did not get into the peritoneal cavity, on account of the shutting off of diseased parts from the general cavity, as described by one of the previous speakers. In one case sent to him, while being examined on the table the pelvic abscess broke into the rectum and nearly one quart of pus was evacuated in this way. Within a week the abscess had filled again, and he then requested Dr. Bache Emmet to use on the case a pair of hollow forceps which he had devised for the purpose of holding the rubber drainage tube in situ. He considered this instrument very useful.

With reference to diagnosis, he wished to say he believed that in a large majority of cases we could make the diagnosis between extra- and intraperitoneal abscess; in other words, between those which ought to be operated upon by an incision near Poupart's ligament and those which ought to be

opened from without.

Dr. A. P. Dudley said that the question of diagnosis was the basis of the proper discussion of this paper. He had seen case after case, he believed, in which extraperitoneal abscess was entirely independent of the tubes, although he admitted that most of these abscesses were intraperitoneal. He laid great stress on the shape of the tumor as the point in differential diagnosis, and also upon the great importance of high rectal examination. In one case of ovarian cyst with a true pelvic abscess below the peritoneum, he performed laparatomy and removed the cyst, ovary, and tube, and then drained the pelvic abscess from the stump of the pedicle. The abscess was perfectly independent of the pelvic cavity. A pelvic abscess below the peritoneum will dissect around and behind the uterus to the opposite side and down into the pelvis before it will pass upward. Another point in differential diagnosis is the fact that there is not likely to be so much sympathetic trouble—e.g., tympanites, tenderness, etc.—in the extraperitoneal abscess as in intraperitoneal. He thought it was quite possible to make the differential diagnosis.

Another point was that this extraperitoneal effusion is usually accompanied by a history of rapid formation of either an effusion of serum from injury, or an effusion of blood from injury of the ruptured vessel, or an extra-uterine pregnancy. In cases of this kind the method of treatment adopted by Dr. Mundé was certainly reasonable, yet high rectal examina-

tion was an essential step in making a perfectly correct differential diagnosis. The majority of pelvic abscesses for which laparatomy is done are at first pus tubes attached to the pelvic floor. Before any pelvic abscess can rupture into the rectum it must certainly ulcerate. He had recently reported the removal of a tube and ovary where such ulceration was taking place behind the uterus, and where it became necessary to stitch the sigmoid flexure to the posterior wall of the uterus.

Dr. W. H. Baker, of Boston, said that although he had been converted to the view of tubal abscess being the result of these troubles, yet he believed that in a certain number of eases following shortly after labor and abortion there was a true phlegmon or a pelvic cellulitis. He regretted that they had not heard more about bloody effusions, to which the author had called attention. He had had four or five cases of such hematomata following in from ten days to three weeks after a laparatomy, and on the same side as that from which the tube or ovary had been removed. He had demonstrated to his own satisfaction, by the use of aspiration, that this was an effusion. These exudations always disappeared in a very short time. In one such case the effusion occurred as a result

of injury as long as one year after the laparatomy.

Dr. Mundé, in closing the discussion, said that he only wished to remark that the question to decide was, whether the gentlemen who participated in the discussion admit that there is such a thing as pelvic cellulitis at all. If so, as he was glad to see that they did, the matter could be discussed on a fair basis. Dr. Polk did not admit its possibility, hence he could not discuss the question with him. Personally he believed there was such a thing as pelvic cellulitis. The reason these exudations have never been found on the postmortem table is that cases of pelvic cellulitis do not die. It was well known that exudations of blood take place extraperitoneally and that tumors form between the layers of the broad ligament. Why not, then, an inflammatory exudation, an effusion of plastic lymph, and why not suppuration of that lymph? He did not believe any one could answer the question. Why not? Simply because they take place. It was largely a matter of personal opinion. He had only denied in his paper that the abscess in the cellular tissue was always caused by tubal abscess. He was sorry that there had not been some discussion on the subject of hematoma, as he wished very much to know whether these gentlemen would go so far as to open the abdomen, draw up a tense broad ligament, split it open, and sew it into the wound, when they could much better open and drain it by the vagina.

A Practical Treatise on the Diseases of Women. By T. Gaillard Thomas, M.D., LL.D., Professor Emeritus of Diseases of Women in the College of Physicians and Surgeons, New York, etc., etc. Sixth edition, enlarged and thoroughly revised by Paul F. Mundé, M.D., Professor of Gynecology at the New York Polyclinic and at Dartmouth College, etc., etc. Philadelphia: Lea Brothers & Co., 1891. Pp. 826.

A decade has elapsed since the publication of the fifth edition of Thomas' work. In 1880 the book had secured general recognition as a classic. It had become the text book of America, and through translation into many foreign tongues the teachings of American gynecology, as voiced by the author, were very thoroughly disseminated. At that time the art with which the work deals was on the verge of what to-day may be looked upon as a most radical revolution—a revolution which even now has not merged into a settled order of things. For notwithstanding the optimism (not to say dogmatism) of a few, the problems evolved during the past ten years are in many phases unsettled; in certain respects, indeed, the signs point to an arrest of the wheel, if not to backward revolution.

The basis of our art to-day is the more accurate pathology which has followed in the footsteps of the abdominal and pelvic surgery of the past decade. In many respects we and our patients are better off, in others decidedly not. If in the past we were prone to place too much reliance on non-surgical therapeusis, to day we often lack the patience to place enough reliance on means which are not surgical. The tyro in gynecology is at a loss what road to pursue. His aim often, his great ambition, is to "do a first laparatomy," even as in the early part of the past decade it was to "own a sound and a speculum." On the one hand he is accused of being "a conservative"; on the other hand he is stigmatized as an "operator desirous of a record." To select the happy mean, to sift from amidst divergent views the best for his patients—these are difficult tasks, and the beginner must needs in this specialty, as in all walks of life, determine from actual personal experience which road to follow, unless he belongs to that—fortunately very restricted—class of men who consider all right which emanates from their hero.

Such being the actual divided state of gynecology, and such

being its present status as compared with its quite recent past, the time having arrived (as it had before this) for a new edition of Thomas' work, the author, being unable to find the opportunity for the thorough revision demanded, determined that the book should be a new one and a dual one. In his selection of an associate he has been most fortunate, for it will be generally conceded that Mundé has performed a most difficult task well. With perfect freedom of criticism in the revision, which is entirely his own, he has nowhere merged his individuality, but wherever personal experience led him to differ from Thomas he has so stated, the result being that the work under review bears the impress of both men, as regards agreement as well as difference. Further, the book is likely to appeal to each of the schools into which the art is divided. The "conservatives" and the "radicals" alike will find food for satisfaction in the views expressed. Criticism, of course, will emanate from both—a sure sign that the work is a broad one and not an extreme one.

We do not propose to enter into an elaborate analytical review of this treatise. The major part—in particular the nonsurgical—could not be very much altered. The advances in gynecology have been largely surgical. Abdominal section for the removal of the appendages, hysterectomy (vaginal and abdominal), the etiology and treatment of purulent collections in the pelvis, the treatment of ectopic gestation—such themes, amongst others, have for the past ten years furnished material for discussion, throwing into the background, for the moment only, we believe, the themes over which we were wont to dilate: the treatment of endometritis by local applications, the uses of the pessary, the value of trachelorrhaphy, and the like. In how far have the authors kept abreast of these changes in thought and in method? Have they relegated to oblivion methods which formerly were counselled in wisdom, or do they still recognize the value, within a more limited sphere, of procedures which once rested on an apparently secure foundation? To such criticism must, in all fairness, the text book and treatise of to-day be subjected. It requires no strength of mind to float along with popular current. The teacher and writer of correct calibre stems this current where need be.

Routine intra-uterine applications were formerly resorted to by every gynecologist and general practitioner. To-day there are many men who absolutely refuse to interfere with the interior of the uterus in their office, deeming it essential that such applications should be made at the house or in the hospital, under the most rigid antisepsis, and followed by rest in bed. There are other gentlemen who never resort to such applications in the presence of the milder grades of uterine catarrh, claiming that extra-uterine therapeusis is amply efficient to

effect a cure. When we turn to the treatise under review for information on this subject, we find Thomas and Mundé at variance. Thomas is opposed to the practice. Mundé enters a strong plea in favor. He states (pages 303 and 304): "I have seen so many cases of chronic endometritis with subinvoluted hyperplastic uteri in which I have been enabled by a persistent course of intra-uterine applications of tincture of iodine, or tincture of iodine and carbolic acid equal parts, through a period of several months, to relieve the most distressing symptoms at least, if not cure the endometritis permanently, that I should feel sorry to give up this method of treatment, unless something equally beneficial and not more troublesome were substituted." Here is honest difference of opinion based on equally large experience. The reader of the work must needs formulate his own opinion. As for ourselves, we have for years dispensed with applications to the eavity of the uterus in routine office work. We have rejected the practice not so much because untoward result has been feared, as because it became quite evident that but little of the medicament reached the interior of the uterus in the absence of free dilatation of the cervical canal. A simple catarrhal endometritis will ordinarily be controlled without resort to intra-uterine applications; higher grades of catarrh require dilatation, the curette (usually), and drainage. These measures should only be resorted to at the patient's house or in a hospital ward.

A second question which of late years has caused much acrimonious discussion is that of cellulitis. Probably the majority of gentlemen who to-day occupy themselves chiefly with abdominal surgery deny the occurrence of this condition apart from the puerperal state, and even then many claim that a complicating if not major affection is a pelvic peritonitis the sequence of a salpingitis. Notwithstanding the prevalence of such views, Mundé has not seen fit to modify in a very essential degree the opinions held in the last edition of Thomas. In the present work a special chapter is devoted to "Para-uterine Cellulitis," and a further chapter to its sequence, "Pelvic Abscess." "In our opinion," the statement runs, "it is decidedly wrong and uncalled for to practically deny the occurrence of pelvic cellulitis. It has become fashionable of late for many of our most enthusiastic and progressive laparatomists to deny utterly the existence of such a pathological condition as pelvic cellulitis. . . . Pelvic abscess, as such, exists in the minds of these gentlemen only as a synonym for abscess in the Fallopian tube (pvo-salpinx), ovary, or pelvic peritoneum." "In our opinion inflammation of the pelvic cellular tissue, with its resultant consequences of dislocation of the uterus, pelvic abscess, and cicatricial induration, occurs independently by itself." "Neither the

immediate nor the remote results of this affection are so grave as those following pelvic peritonitis. The ovaries are seldom involved directly, and the same applies to the Fallopian tubes."

The above extracts will serve our purpose, which is to emphasize the position held by the authors of this treatise. In this position we believe them to be absolutely correct. It has become—and the tendency is apparently not upon the wane —far too much the custom to seek in the tubes and ovaries the source of every inflammatory exudate in the pelvis. The difference in prognosis and in treatment is one of serious concern to the patient. Obviously, let it be granted that the tubes and ovaries are always at fault, and, in the vast majority of cases, abdominal section is the indication. But there exist many gynecologists and expert general practitioners who can certify to the absolute truth of the views we have in part quoted—men who, apart from the puerperal state, have traced the course of exudates toward absorption and have witnessed cure of pelvic abscess short of association of, or interference with, the ovaries or tubes. All this holds whilst it is granted that cellulitis and pelvic abscess are comparatively rare occurrences to-day when viewed from the standpoint of their supposed frequency in the past. To rush, however, from one extreme to another does not constitute

progress.

Passing to the subject of pelvic peritonitis, we find essential difference of opinion in reference to the question (page 491), "Should collections of pus or serum be evacuated?" The importance of an answer is laid stress upon, but, it is stated, "unfortunately no definite answer can be given." Thomas considers the safest practical rule to be, "if, in spite of the sero-purulent collection, the patient be doing well and do not suffer from the local trouble, it should be left to empty itself spontaneously." Mundé, on the other hand, says: "I do not agree with the advice on general principles, so far as it applies to the presence of pus. My opinion is that, pus being present and capable of evacuation without special trouble or danger, it should always be evacuated as soon as detected," and he adds that he has no doubt that this is really Dr. Thomas' opinion. We trust so. The imminent risk in these instances is the occurrence of a general purulent peritonitis, or, short of this, systemic infection of the patient. An encapsulated intraperitoneal exudation of protracted duration too often contains pus deep-seated and therefore likely enough not to be detected by the conjoined touch. Aseptic aspiration, through the vagina or from above Poupart's ligament, may give a clear and, what is much to be desired, early indication for incision and drainage. Our own experience

REVIEW. 415

would lead us to favor not temporizing over-long—especially

is this true of post-puerperal exudations.

In reference to the routine treatment of pelvic peritonitis, the authors strongly indorse the current practice of the administration of laxatives in place of opiates. "It is a fact and beyond dispute that the relief of tympanites produced by a free evacuation from the bowels will almost invariably cut short an incipient attack of peritonitis, as evidenced by the falling of temperature, the cessation of vomiting, and the

general improvement of the patient" (page 488).

Hematoma and hematocele are considered under the latter heading. By a slip of the pen the former, however, is defined also as being an *intra*-peritoneal exudation (page 500). We judge that Mundé recognizes more strongly than does Thomas the advisability of strictly differentiating the one from the other. In reference to treatment, Mundé records himself (page 504) as favoring the evacuation of hematoma (extraperitoneal hematocele) per vaginam. In case of intraperitoneal hematocele, on the other hand, "abdominal section is invari-

ably indicated."

The chapter dealing with "fibroid tumors of the uterus" is worthy of careful study. The indications for abdominal section are certainly not as general as those which have been favored of late years by many gynecologists. "No hard-and-fast rule, such as applies to ovarian tumors, can therefore be laid down for the operative treatment of fibroids. . . . The fact should not be forgotten that fibroid tumors seldom kill, and that the operation for their removal is vastly more dangerous than that of ovariotomy. We would therefore advise that the indication for abdominal hysterectomy for fibroids be very carefully and closely limited; and we can truly say that only a very small proportion of such cases which have come under our personal observation have been thought to justify the operation of laparatomy" (pages 533, 534).

The different methods of treating the pedicle are considered at sufficient length, and the authors confess themselves (page 539) decided adherents of the extraperitoneal method. The complete extirpation of the uterus is granted as being the ideal method, but the greater technical difficulties lead the authors not to recommend it. Nevertheless the record of recent work in this direction has already proved the method the best of all, and we do not question but that it will ultimately

be uniformly adopted.

In reference to the question of vaginal hysterectomy for cancer of the uterus, the authors record themselves as favoring the removal of the entire organ by the vagina, even in cases where the disease is presumably limited to the cervix alone, "rather than to take the chances of a high amputation 416 REVIEW.

of the cervix when possibly the disease has already extended

beyond the internal os "(page 589).

Every gynecologist will sympathize with the statement that there are few curable disorders which the authors dread to meet so much as chronic "oöphoritis"; we wish we could feel as assured that every gynecologist will echo the statement that "incurability of an ovary afflicted with chronic inflammation of its stroma by no means implies absolute necessity for its removal nor unqualified persistence of ill health" (page 657). Yet the fact cannot be too stringently insisted upon that whilst this ovary cannot be restored to its normal condition, "it may often remain entirely quiescent and give its owner so little trouble that she is perfectly willing to bear the occasional twinges of pain and consequent temporary confinement to bed. rather than to have the offending organ removed" (page 657); and therefore "only in the very last emergency would we consent to a removal of ovaries which are diseased in no other way than as the result of chronic inflammation" (page 658).

Battey's operation is justly considered to have lost its hold on the profession, so far at least as regards the relief of reflex nervous and mental disturbances. The ultimate results, so far as they are on record, do not justify the operation. Hegar's operation, on the other hand—that is to say, the removal of the ovaries for the production of the menopause in case of hemorrhagic fibroids—is an established warrantable procedure.

The diseases of the Fallopian tube are considered from a standpoint which will satisfy all except the limited class of extremists in operative gynecology; and in connection with the subject of ectopic gestation, it is granted that in the absence of symptoms suggestive of rupture it is entirely justifiable to withhold the hand from the knife and to resort to electricity.

In this rapid survey of the portions of this treatise which will chiefly attract attention, we have endeavored to show that the anthors have been neither old-fashioned nor ultra-progressive. If we may be permitted to use a term which in certain quarters is deemed a weapon of reproach, we would call the treatise a conservative one. Unquestionably the future will in certain respects brand the authors as lacking in foresight; but it is wiser to be moderate in opinion than dogmatic, especially in treating of subjects in regard to which the diversity of existing opinion too often leads to acrimonious speech. We feel that this revised treatise is still a safe guide to the student and practitioner, and we trust that in certain respects it may prove a teacher to even the advanced gynecologists.

### ABSTRACTS.

1. Delbet and Marcel: The Action of Antiseptics upon THE PERITONEUM (Annales de Gyn., 1891).—I. Chemical antiseptic agents are looked upon with disfavor by an increasing number of laparatomists. Tait, Bantock, and others pride themselves upon never having used them at all. Veit and Sänger, who formerly advocated their use, have abandoned them. Pozzi does not use them when once the abdomen has been opened, believing with many others in the adage: "Antisepsis before, asepsis after laparatomy." Recent researches upon the resistance of the tissues to infection show that the cellular elements play an important part in the fight against microbes. Antiseptics are a poison to these unicellular micro-organisms, and it is conceivable that they might also possess a toxic influence upon the more complex cells of the body, altering or destroying them, and so really diminishing the resistance of the tissues to infection instead of increasing This would, of course, depend largely upon the amount of injury done to the cells.

In ordinary wounds the destruction of a thin layer of cells does no greater harm than to afford a favorable nidus for germs, which is, of course, a drawback, inasmuch as it necessitates drainage; still, a sufficient number of cells of the same nature remain to combat infection, and the destruction of the microbes may more than compensate for the destruction of the cells, the more especially as the latter do not seem to possess any great antimicrobic properties. In the peritoneum, however, the case is different, the lining endothelium seeming to be endowed with special properties of resistance, due in all probability to the secretion of some substance having a toxic effeet upon micro-organisms. This endothelium, moreover, is in a single layer, and if destroyed cannot be replaced except by connective-tissue cells, which, however, must first undergo certain modifications. Thus destruction of the endothelial cells of the peritoneum changes the serous membrane from a structure possessing energetic antimicrobic power to one composed of ordinary connective tissue, exposed almost without defence

to the chances of infection.

Enough has been said to prove the importance of the action

of antiseptics upon the peritoneum.

II. Technique of the Experiments.—These were all made upon dogs. The animal was anesthetized, the abdomen shaved, brushed, soaped, and washed with Van Swieten's solution (one part corrosive sublimate to one hundred parts alcohol

and nine hundred parts water); the operative field surrounded with compresses boiled in a sublimate solution and fixed in place by forcipressure forceps. The abdomen was opened and a piece of healthy mesentery removed for purposes of comparison. The solution whose action was to be tested was then poured into the abdominal cavity through a glass funnel. At the end of five minutes a second piece of mesentery was taken, the abdomen thoroughly irrigated to remove the toxic solution, and the wound sutured. At the end of two, four, and ten days the animal was killed by section of the medulla, and, while the heart was still beating, several portions of the mesentery were removed, and, by a special process avoiding manipulation and securing stretching of the specimen, fixed upon a glass slide, immersed in distilled water and then into an aqueous solution of silver nitrate 1:200. When sufficiently stained it was put again into distilled water, dehydrated by absolute alcohol, cleaned with oil of cloves, and mounted in xylol balsam. The cell walls only were studied, the experiments for staining the nuclei not having yielded satisfactory

III. Nature of the Alteration produced by the various Antiseptics upon the Endothelial Cells of the Peritoneum.—The various solutions produced effects varying in degree but of

the same nature. There were four stages.

First stage: In the normal mesentery the cell wall is irregularly wavy in outline, while here and there a cell is found which seems to have become granular and which is stained a dark gray by the action of the silver nitrate. The first change from the normal seems to be a retraction of the cell, especially at the angles, which are drawn away from neighboring cells, bringing the intercellular substance with them. Black spots occupy the angles of the cells.

Second stage: The margins of the cells retract, as is shown by the appearance of a bead-like series of dark spots along the edges of the cell; these gradually coalesce and form a

thickened, dark line of demarkation between the cells

Third stage: The cell becomes granular, and dark in color;

Fourth stage: Desquamates, not in its entirety, but in shreds. The whole endothelial lining of the peritoneum is thus gradually destroyed; the endothelium of the blood vessels has never been found to undergo the slightest modification.

IV. Action of Special Antiseptics.—1. Carbolic Acid 1:100. Tried on seven dogs; two died of poisoning, the

others were killed from the fourth to the tenth day.

Macroscopically, the peritoneum was normal, except in one case when it was slightly reddened. Microscopically, the cells were found to be in the first stage five minutes after

the irrigation, and then rapidly passed to the second and beginning of the third stage. After four days the desquamation was almost complete, a few cells only remaining in place. At the tenth day the protoplasm was slightly granular and the intercellular substance thickened; the preparations were not sufficiently good to demonstrate whether new cells were

in process of formation.

2. Bichloride of Mercury.—Twelve dogs were used in the experiments. With two of them Van Swieten's solution 1:1,000 was left for five minutes in the abdomen; they died within twenty-four hours, and the autopsy revealed enormous macroscopic lesions. There was an abundant serosanguineous effusion in the peritoneal cavity, and intense congestion of the intestines with extravasations of blood along the course of the vessels, while the mesentery was opalescent and in some places almost opaque. The result with a 1:2,000 solution was identical; with a 1:3,000 and 1:5,000 solution two dogs died, but presented no macroscopic lesions; the remaining six were killed in from twenty-four hours to ten days. The former presented the sero-sanguinolent effusion and a shrivelled and ecchymotic epiploön; the intestines were reddened. In those killed after forty-eight hours the effusion was found to be less in amount; the serous membranes were, however, in the same condition of congestion, and a few false membranes had formed between the loops of intestine. In the dogs killed on the tenth day the intestines were solidly bound together, but there was no effusion and the color was normal.

The microscopic sections prepared after the solution had been in action for three minutes showed the alterations of the second stage; after five minutes it was between the third and

fourth.

3. Biniodide of Mercury, 1:10,000.—In two dogs killed, the one after three and the other after seven days, the macroscopic lesions were limited to a slight thickening of the mesentery. Microscopically, in both cases the cells were found to

be in the third and fourth stages.

4. Salicylic Acid.—The solution used contained one gramme of the acid to one hundred of alcohol and one thousand of water. The immediate effect of the irrigation was striking. The intestines contracted; the vessels became diminished in calibre and then disappeared; all the parts lost their color. After five minutes the intestines and mesentery were entirely retracted, and the latter was white and opaque like porcelain, and its surface roughened. After forty-eight hours the animal was killed and there was found an abundant effusion, upon the surface of which floated drops of oil. The intestines were red and bound together by soft adhesions. The microscope revealed complete destruction of the cells.

5. Rötter's Solution (mercury bichloride, sodium chloride, zinc chloride, phenol, sulphate of zinc, carbolic, boric, salicylic, and citric acids, and thymol) produced in sixteen hours a slight effusion, redness of the intestines and mesentery.

6. Methyl Violet.—This was non-toxic to the rabbits and dogs used in the experiments. The peritoneum became violet-colored. Microscopically, it was seen that the nuclei of the cells were stained; if it be true that only dead cells are thus affected, it follows that methyl violet must exert a rapidly destructive action upon the cells of the peritoneum.

7. Boric Acid 3:100.—Animal killed after forty-eight hours. No macroscopical lesions. Microscopical changes slight.

8. Distilled Water at the temperature of the body and at 125° F. was used. The effects were about the same in either case. The elevated temperature was not actually without influence, but seemed merely to accelerate the evolution of some of the cells.

9. Salt Water 7:1,000.—No macroscopic lesions. Altera-

tion of cells that of the first stage.

10. Air.—To estimate the action of the air upon the peritoneum, loops of intestine covered with mesentery were carefully drawn out through a large abdominal opening and exposed to the air of the laboratory for five minutes. No effect was produced upon the cells; to the naked eye the mesentery

became slightly less transparent.

11. Friction, with firm tampons of absorbent cotton, almost completely removed the endothelial layer when the mesentery was tense. When it was lax, when tampons were introduced into the peritoneal cavity, as is done during laparatomies, or when a loop of intestine was drawn out of the wound and held for five minutes between warm aseptic gauze compresses, the effect was very slight.

12. *Iodoform* produced no other effect than the formation of one small adhesion, in the substance of which were found a few grains of the powder. Too small an amount was used,

however, to render the result decisive.

13. Salol.—No macroscopic lesions; a few cells only affected.

V. The Influence of Antiseptics upon the Antimicrobic Powers of the Peritoneum.—It has been shown that certain solutions cause a rapid but only partial desquamation of the endothelial cells; the question arises whether the remaining cells still possess any active powers of resistance to pathological micro-organisms. Is a peritoneum which has been subjected to the action of antiseptics less protected against infection than a normal peritoneum? Histology can as yet give no answer to this inquiry.

Delbet and his associates inaugurated a series of experiments in the endeavor to reach a definite conclusion, using microbes

as a reagent. Bumm, Fränkel, Predöhl, and Laruelle proved that micro-organisms are present in the peritoneum in cases of fatal peritonitis, while Wegner, Grawitz, Pawlowsky, Laruelle, and Waterhouse demonstrated the powers of resistance to infection possessed by the serous membrane. Pawlowsky produced peritonitis in a rabbit by the injection of microbes from pure cultures, but he found that the chances of infection were greatly increased by the presence of irritating antiseptic solutions. Grawitz, Laruelle, and Waterhouse found that the introduction of progenous microbes into a healthy peritoneum was harmless, unless some irritating aseptic substance was present. Fecal matter and bile were used by Laruelle.

Delbet used bile. He first proved the resistance of the peritoneum to certain microbes in definite amount, and then endeavored to ascertain whether upon dogs of the same size and age the same amount of a pure culture which alone produced no effect, and which in combination with bile caused peritonitis, would produce it upon a peritoneum previously

treated with antiseptics.

The experimentation was not entirely successful. The remarkable powers of resistance possessed by the peritoneum were clearly demonstrated; also the fact that bile has an effect upon the peritoneal cells similar to that of antiseptic solutions, but is more rapid and more intense in its action. The impossibility of producing a series of cultures of equal virulence

prevented further research.

The conclusion reached by Delbet and his associates is that the use of strong antiseptics in laparatomy is attended by some drawbacks when the peritoneum is normal. They may diminish its powers of resistance and favor the formation of adhesions. If the peritoneum have been previously affected, if the endothelial cells have already undergone destructive changes, if extensive adhesions have already been destroyed by the removal of a large tumor, antiseptics may be used with less danger. When the peritoneum is normal they find that—

1. Powerful antiseptics (carbolic and salicylic acids, the bichloride and biniodide of mercury) possess more drawbacks than advantages. Rötter's solution is the least injurious of

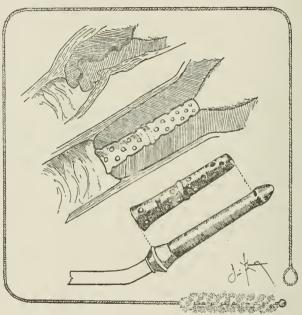
these.

2. Of all the solutions used in laparatomies, chloride of sodium 7:1,000 and boric acid 3:100 cause the least altera-

tion in the peritoneum; the latter is the better.

3. Iodoform and salol in powder very slightly affect the endothelial cells, but their antiseptic qualities are not well established.

2. GÉRARD, J.: DRAINAGE OF THE UTERUS (Gazette de Gyn., 1891).—The diseased uterine cavity may justly be considered as a purulent focus and therefore should be opened and drained. In the opinion of the author, drainage is the only practical method for overcoming the various causes of sterility depending upon the woman, whether there be cervical atresia, catarrh, endometritis, or displacement. The procedure is simple and, in these antiseptic days, free from danger. Neither curetting, swabbing, nor the quadrangular stems used by Lefour give results comparable to that of drainage. Gérard uses an aluminum drainage tube a little more than an inch long, with an external diameter of about two-tenths of an inch. The metal chosen is light, resistant, and non-oxidizable.



The tube is perforated by many small holes; this adds to its lightness, and, moreover, the lining membrane of the cervix projects through them and helps to keep the tube in place, while the secretion of the glands is not interfered with and can escape freely. A species of projecting ring at the middle part of the tube also serves to keep it in place by pressing into the mucous membrane of the cervix.

Should the cervix be larger than an inch, a larger tube must be inserted. The cervix is dilated by means of a laminaria tent which has been impregnated with an ether solution of indoform and cocaine, respectively five and one per cent, which remains in place ten hours. The tube is then dipped into the same solution and introduced into the cervix; to ren-

der asepsis perfect, wicking soaked in the solution may be pushed through the tube. A tampon keeps the latter in place, and is withdrawn the following day if the tube is seen to be firmly fixed in the cervix. Toleration of this foreign body is very quickly established, and the advantages of the process soon become apparent. The uterine cavity quickly rids itself of impurities and is speedily cured. Sterility is often remedied by this means.

Should a cure be delayed, it would be easy enough to swab out the cavity by means of one of those small brushes sold everywhere for the eleansing of pipes. A bit of lead can be fastened to the end of it, and it may be dipped in glycerin or liquid vaseline, and used to carry into the uterine cavity whatever powdered medicaments are considered necessary. Or medicated wicking can easily be passed through the tube

into the uterus.

The accompanying drawing shows—

1. A sinuous cervical canal such as is often met with in practice, and which can be straightened only by means of a stiff support.

2. The drainage tube in situ and the canal straightened.
3. The drainage tube, with its many perforations.

4. The trainage tube, with its many periorations.

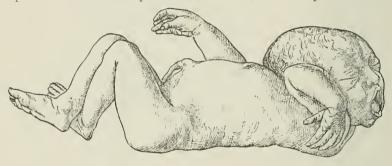
- 5. The tube carrier. This is of copper plated with nickel, flexible enough to take any curve desired; it unscrews readily and will carry tubes of different sizes. It is also serviceable as a lever in the application of uterine massage; a ring washer is slipped on the end of the stem, embracing the circumference of the cervix, while the stem penetrates the cervical cavity. The left hand is placed upon the fundus, and with the right hand, which grasps the handle of the tube carrier, up and down or lateral movements are executed with the purpose of breaking down adhesions. Massage performed in this manner is easy and possesses advantages for both patient and operator.
- 3. Madame Henry (Head Midwife of the Paris Maternity): Torsion of the Neck in Vertex Presentations (Annales de Gyn. et d'Obst., 1891).—In several cases of labor during the years 1889 and 1890 the head was seen to rotate without any corresponding rotation of the trunk, the result, of course, being torsion of the neck. The mechanism in the cases observed by Madame Henry has usually been as follows: The occiput was usually first disengaged at the upper part of one of the ischio-pubic rami, the chin emerging somewhat obliquely from the anterior commissure of the perineum. At other times, after the forehead was freed, the face was seen to rotate rapidly in the vulva, and the chin was carried upward

and disengaged from the pubis, the occiput having previously

been disengaged from the same place.

The trunk also was expelled in two different ways. Sometimes, after the delivery of the head, the neck became untwisted, the shoulders rotated, and the remainder of the process was normal. In other cases the shoulders failed to rotate, and the fetal head and body were born in the following relation to each other, viz., the face turned towards the median line of the back, the occiput corresponding to the anterior plane.

The cases on record are few, and there is but little literature upon the subject. The author quotes at length the results of experiments conducted by Tarnier in 1864 and 1872 with the object of proving the innocuousness of rotation of the head alone. He says that under certain conditions of labor the application of the forceps is so laborious that some operators are



of the opinion that it would be well to rotate it upon its axis, in order to make the head turn in the pelvis as it does sometimes spontaneously, displacing the occiput from behind Several authorities adopted this measure, while others repudiated it as dangerous to the fetus, believing that as it would cause the head to rotate more than a quarter of a circle, while the trunk remained immovably fixed in the uterns, fatal lesions would be produced in the cervical region of the vertebral column at the atlo-axoid articulation. Tarnier considers these objections mainly theoretical. He experimented upon the cadavers of several newly-born infants, rotating the head a full half-circle so as to bring the occiput at the centre of the sternum; not only the atlo-axoid articulation participates in this movement, but the whole extent of the cervical region and a portion of the dorsal. Much force is expended to produce this result, yet a minute examination revealed no lesion of the spinal column nor of the cord. Fluid having been substituted for the spinal cord, which would, upon the slightest pressure, flow upward into a glass tube, the experiment was repeated, and the fluid was found to remain in place,

while a decided flexion of the head caused its immediate displacement. Tarnier concludes from this fact that exaggerated rotation of the head exerts less pressure upon the cord than the flexion which has to be produced to disengage the occiput in occipito-posterior positions. He believes, moreover, that artificial rotation of the head will usually cause a similar movement of the trunk.

Madame Henry also carried out a series of experiments upon the cadaver of a fetus. The torsion of the neck was easy of accomplishment, the chin being brought toward the back. The neck was found to be shortened and to describe a spiral which began at the third or fourth dorsal vertebra. This elongation of the spiral accounts for the fact of the spinal cord escaping injury. By an incision the vertebral column was exposed inorder to study the degree of rotation of each vertebra. Calling the arc of the circle described by the rotation of the head in relation to the trunk one hundred and eighty degrees, about ninety are represented by the rotation of the axis upon the atlas and of the other cervical vertebræ upon each other. During this torsion the atlas slipped from behind forward upon the occiput to the extent of about half a centimetre, the posterior portion of the foramen magnum becoming accessible to the finger: this movement partially reducing the inequality between the arms of the lever in the occipito-mental diameter and diminishing the tendency to flexion. The vertebræ became more nearly approximated during rotation and more or less immobilized, producing a rigidity of the cervical part of the vertebral column which would prevent complete flexion or extension of the head in the case of torsion. Neither the suboccipitobregmatic nor cervico-bregmatic diameters present in such a case, but the occipito frontal.

Madame Henry reports in full five cases of the abnormal presentation under discussion. Three of the infants were still-born. The first was macerated, but the other two were alive at the beginning of labor; one died from compression of the prolapsed umbilical cord, the other as a result of protracted labor. The author believes that torsion of the neck favors pro-

lapse of the cord.

As to the causes of torsion, she considers it due to irregularity of the uterine contractions. The diagnosis is easy, the dorsum being found turned to one side and the posterior fontanel to the other. The prognosis is, on the whole, favorable for the mother, although of course certain disadvantageous maneuvres are necessary to reduce the prolapse of the cord or terminate a protracted labor. For the child the prognosis is serious; less so if the torsion occur during labor when the head is low. If it occur before or at the outset of labor, the

head being high and prolapse of the cord to be feared, it would be of advantage to perform podalic version. Reduction of the torsion would be extremely difficult.

4. Oui: Extra-uterine Pregnancy, with Rupture of THE CYST; RECOVERY (Arch. de Toc. et de Gyn., 1891).— The patient was in the tenth week of pregnancy when she came to the hospital because of abdominal pain followed by complete loss of consciousness for an indefinite period and persistent vomiting. The day after her admission she was found to be in a profound torpor. The abdomen was increased in size, but upon the whole right side a normal tympanitic sound was obtained on percussion. The left iliac region, however, gave dulness throughout a clearly limited area, and was exquisitely sensitive to pressure. The cervix was normal in size and shape and somewhat softened; the body of the uterus seemed to be slightly increased in size and very slightly movable. The vaginal culs-de-sac were free, the rectum loaded with scybala. There was no fever the first day, but on the second the temperature went up to 103 F.° On the third day a vaginal injection brought away fragments of membranes, the patient being in a condition of great exhaustion with dyspuea. After this the improvement was marked and rapid, and in a month she was discharged from the hospital. All trace of dulness had disappeared from the abdomen, which was now normal in size. The cervix was normal; the uterus was of normal size, but not yet freely movable. The posterior cul-de-sac was reached with great difficulty and seemed to have been drawn up towards the abdominal cavity. Within the left broad ligament, about half an inch from the uterus, was found a hardened mass about the size of a walnut. The treatment throughout had consisted of tonics, supporting remedies, applications of ice to the abdomen, and vaginal irrigations with a solution of bichloride 1:2,000.

A histological examination of the membranes expelled

proved beyond question that they were decidual.

The diagnosis in this case was reached with some difficulty. There were the signs of sudden intraperitoneal hemorrhage, and the first opinion held was that it was due to rupture of a peri-uterine hematocele. But the collateral symptoms of pregnancy led to a suspicion of abortion or of an extra-uterine pregnancy with rupture of the cyst. The principal signs of abortion were, however, absent. The hemorrhage was slight, there were no clots, and the cervix was non-permeable. On the other hand, the signs of extra-uterine pregnancy were present. The sensations of weight and tenderness felt since the suppression of the menses were localized in the left iliac

region; the uterus slightly increased in volume, and the cervix a little softened; then, in the second month, a hemorrhage suddenly supervened, possessing the characteristics of neither a menstrual flow nor an abortion, and followed by the

expulsion of decidual fragments.

The author considers this to have been a case of tubal pregnancy, with rupture of the cyst toward the end of the second month, followed by either resorption or encysting of the fetus. Unfortunately the diagnosis could not be established, there having been no operation, as the patient was considered too weak to endure the consequences of anesthetization and shock. The results, however, were most happy.

A. R.

5. Pippingsköld, J. (Helsingfors): The Asepsis of Obstetrics as practised in Finland for Twenty Years (Reprint).—The author believes in the use of antiseptics, but thinks that in a sparsely settled country such as Finland cleanliness is the chief and best prophylaxis against infection. He describes as follows the new Maternity of Helsingfors, which is situated outside of the town upon a hill exposed to all winds except the north wind. The ventilation is excellent, simple, and easily managed. The capacity is from nine hundred to one thousand, and each patient can remain about ten days; no one is allowed to leave until absolutely convalescent. As the town of Helsingfors has a population of sixty thousand, it follows that 1.5 per cent of its inhabitants can be received in the Maternity.

Patients usually apply for admission at the beginning of labor; it is not usually necessary to give them a bath, as the Finnish people carry bathing almost to excess and are always clean! Before examination the genitalia are carefully washed with soap and water. Since 1883 this procedure has been supplemented by an irrigation of a carbolic solution, two to three per cent, in cases when an obstetrical operation was to follow (forceps, version, etc.). Midwives and assistants are obliged to wear gowns of wash material freshly lanndered, and their hands are scrupulously washed in hot soapy water and rinsed in a carbolic lotion or rubbed with hypochlorite of lime. The exploratory finger and hand are dipped into sapo viridis. Previous to operations, alcohol, a bichloride solution, and a carbolized solution are used in succession, carbolized glycerin being used as a lubricant. The straw used for the mattresses is changed for each confinement, the horsehair used for the private patients washed and baked. All bedclothing is boiled, and disinfected with sulphur. Intra-uterine injections as a means of prophylaxis are not used, or at least only once or twice a year. If the membranes are ruptured and the fetus or placenta is in a putrefying condition, one disinfectant injection is usually considered sufficient. If labor be protracted and the patient has been subjected to many examinations, or if there be fever present, the vagina, and the segment of uterus below the presenting part, are disinfected with a 1:1,000 solution of bichloride followed by a 1:100 solution of carbolic acid, applied by means of impregnated wads of cotton. The results have been excellent.

After delivery necessitating operative measures, intra-uterine injections are administered only in case of hemorrhage, and consist of a solution of the perchloride of iron, one to three per cent, preceded by the introduction of pieces of ice, rarely hot water. In the case of fetid lochia vaginal douches of a

tepid carbolized solution are given.

The mortality from puerperal septicemia in the former obstetrical service was, during the years 1859 to 1869, almost 7 per cent: 1870 to 1871, 4 per cent; 1872 to 1877, 1.11 per cent. In the new Maternity it has been: 1879 to 1883, 0.7 per cent, 2,931 patients; 1884 to 1887, 0.29 per cent, 3,034 patients—this enumeration including even those who died after leaving the hospital at too early a date and against the advice of the physicians.

A. R.

6. Guyon: The Operation of Lithotrity upon Woman (Annales de Gyn., 1891). — The extraction of a calculus is attended by greater difficulty in woman than in man, notwithstanding the greater ease in the introduction of instruments. The bladder, however, is either distended with great difficulty or else it is too distensible; neither does it possess a sharply limited base, so that the calculus, instead of being found in this base as in man, may be in any portion of the organ and necessitate greater manipulation to find it. The bladder should be pressed down near the neck by the curved portion of the lithotrite in order to bring down the calculus; this maneuvre is not difficult in a healthy organ, but is greatly complicated by cystitis, and may have to be abandoned, in which case the calculus must first be seized and brought down to the inferior segment of the bladder and there crushed. This is not always possible, since the calculus often remains fixed in its place. Guyon states as an axiom that in every case where the calculus has to be sought for lithotrity is a difficult operation. It consists of five steps—

1. Introduction of the instrument. 2. Formation of an operative field by depression of the base of the bladder. 3. Seizure of the calculus. 4. Fixation of the calculus.

5. Crushing and extraction.

With the exception of the second step, these are the same as in the operation upon man. The results are equally good in both sexes.

A. R.

7. Mesnard, E. M.: Retention of Menstrual Flow for Six Months, due to Occlusion of the Vagina (Arch. de Toc. et de Gyn., 1891).—The case quoted is of interest because of the fact that the occlusion of the vagina occurred four years after the establishment of the menses and two years after marriage. Menstruation began at the age of 17, and for ten months was normal, after which the flow continued without interruption for a year. After marriage the hemorrhage ceased and the menses became regular again, until in December they ceased, and the patient considered herself four months pregnant when she presented herself for examination.

The vagina was found to be completely occluded by adhesion of its walls about one inch from the vulvar orifice. A soft, fluctuating tumor was found by rectal examination, and, shortly after what should have been the sixth menstrual epoch since the cessation of the function, was opened with a trocar. About a third of a litre of a black, thick, odorless fluid escaped; the cavity was washed out with a carbolic solution, and several incisions made in the adherent walls. The upper part of the vagina was found to be roomy and the uterus normal and anteverted. Cicatrization of the vagina was completed in about a fortnight, but the cicatricial ring was so small that dilatation with laminaria tents was resorted to. It was partially successful, but, pregnancy supervening, was discontinued for fear of causing an abortion.

At term the patient was delivered of twins. There was marginal insertion of the placenta, notwithstanding which there had been no hemorrhages during the course of pregnancy or of labor, until the head of the first child was being delivered by the forceps, when the flow was abundant. Postpartum hemorrhage was checked by injections of the perchloride of iron. M. has never had any untoward results from the use of this agent in checking hemorrhage—a fact which she considers due to the use of intra-uterine injections of a solution of carbolic acid begun the following day, which removes all blood clots formed.

A. R.

8. Touvenaint, Léon: The Treatment of Cervical Endometritis by Interstitial Injection (Paris, 1891).—Inflammation of the cervix may be of three degrees, superficial, of medium intensity, and intense; the first degree characterized by a discharge, the second by a discharge and ectropion, and the third by these two conditions plus inflammatory hypertrophy of the cervix.

Surgical methods of treatment are indisputably the best, being unattended by danger and giving the most brilliant results. Operations, however, are not always feasible, hence it

is of importance to know the best medical treatment of the condition. The methods chiefly used have been: ignipuncture, applied by means of Paquelin's thermo-cautery; local blood-letting by means of leeches or scarification; cauterization with a variety of agents well known to all practitioners; and vaginal injections of astringents and antiseptics.

Touvenaint believes that endometritis of the first degree yields readily to mild cauterization with creosote, tincture of iodine, etc., which destroy the microbes causing the inflammatory process, and which are in this stage still superficially seated and easily reached. For endometritis of the third degree one procedure only is of service—namely, Schröder's operation for amputation of the cervix.

It is for endometritis of the second degree, or intermediate variety, that the method under discussion is peculiarly suited. General treatment will of course consist in the use of laxatives and tonics. The local treatment consists of (1) cauterization,

(2) scarification, (3) asepsis.

1. Cauterization.—Nitrate of silver and the other agents used for surface cauterization the author considers inadequate, as they do not reach the cervical glands into which the microbes have penetrated and lodged. The red-hot iron possesses the disadvantage of causing cicatricial tissue, and, moreover, by destroying only the superficial portion of the glands, leads to the transformation of their deeper portions into pathological cysts, which are in themselves a persistent source of inflammation. Surface canterization after scarification is of little benefit, the bleeding interfering with the process. To be at all efficacious, the caustic used must penetrate into the diseased mucous membrane. Touvenaint uses a syringe resembling the Pravaz hypodermic syringe, but with a longer piston rod. The solution is composed of pure creosote, alcohol, and water in equal parts. He introduces the speculum and removes the cervical mucus with absorbent cotton impregnated with a earbolic solution 1:100, or, better yet, by means of a carbolized douche. The syringe is then filled with the creosote solution, the needle introduced into the mucous membrane, and a few drops gently injected. As a usual thing, only one lip of the cervix is treated at a time, several injections being made into it at different points. At the next treatment the other lip is injected, and so on alternately until a cure is effected.

2. Scarification.—After cauterization the diseased surface should be opened in order to evacuate the glands as well as to obtain the effects of local bleeding. The author uses an instrument recommended by Doléris, which is shaped like a rake; but if the cystic glands are deeply seated, he prefers the point of a bistoury. The blood is allowed to flow for a

few moments, after which a vaginal douche is administered

and an antiseptic dressing applied.

3. Asepsis.—Powdered salol, iodoform, and tannin in equal quantities are applied to the cervix, and two tampons inserted, which are kept in place until the next treatment. Upon their removal a vaginal douche is at once administered. Treatment is, of course, suspended during the menstrual period, but resumed immediately afterwards.

The interstitial injections often cause no sensation, but, as a usual thing, the very instant that a few drops have been injected the patient complains of a taste like that of tar or creosote in the mouth. Occasionally she may cough slightly, or even violently, and experience a general sensation of warmth, accompanied by slight perspiration of the forehead and palms. The patients, however, do not complain of pain during the process, and the other symptoms are so trifling as scarcely to deserve mention.

Locally, one of three results may follow: there may be absolutely no escharosis, or a slight superficial eschar may form, or one of greater extent, severally due, no doubt, to the fact of penetration into closed cysts in the first instance, into open glands in the second, and into interglandular substance in the

third case.

The functional derangements are speedily remedied by this method of treatment; the pain and discharge gradually di-

minish and finally cease.

The same treatment was applied in two cases of epithelioma of the cervix, with the effect of greatly diminishing pain and almost completely checking the fetid discharge. In one case the cervix, which was rough and fungoid, became smooth and bled much less readily.

A. R.

9. Caruso, Francesco (Naples): A Singular Case of Criminal Abortion (Annali di Ostetricia e Ginecologia, 1891).—The author reports the case of a young woman of 25 years who came to the hospital for treatment eight days after having had an abortion performed upon her by a midwife. She was suffering considerable pain in the hypogastrium, and there was a moderate discharge of a sero-sanguinolent fluid. A hard body was removed from the posterior fornix, and proved to be a woody, vegetable root of cylindrico-conical form. It had caused a perforation of the upper part of the posterior cul-de-sac, which, however, was considerably reduced by treatment. The patient disappeared before the cure was completed. The case is of interest because of—

1. The singular nature of the instrument used to produce

2. The perforation of the posterior vaginal cul-de-sac by the vegetable root, and its stay of eight days in that locality.

432 ITEMS.

3. The resulting abortion and very slight irritation of the

uterine peritoneum.

The intention of the midwife was undoubtedly to push the root into the cervix and by this means to cause dilatation. Her ignorance of anatomy or lack of dexterity caused her to insert the instrument in the posterior cul-de-sac instead, producing a laceration followed by only slight inconvenience

and a somewhat profuse hemorrhage.

The most singular part of the whole thing is this insignificant result. We are told by good authorities that "lacerations of the vaginal vault are almost invariably followed by grave peritonitis, often with a fatal termination," yet in this case, after the perforation of the posterior cul-de-sac by a root which was probably inserted in the condition in which it was dug from the earth, and its sojourn for eight days in the vicinity of the peritoneum, the only result was a slight irritation of this membrane.

A. R.

### ITEMS

The first meeting of the Periodical International Congress of Gynecology and Obstetrics, which it is proposed to convene once every four years, will be held in Brussels, Belgium, from the 13th to the 19th of September, 1892. It will be under the patronage of the Belgian government and is indorsed by prominent gynecologists. There are to be three leading subjects for discussion:

1. Pelvic Suppuration. Referee, Dr. Paul Ségond, of

Paris.

2. Extra-uterine Gestation. Referee, Dr. A. Martin, of Berlin.

3. Placenta Previa. Referee, Dr. Berry Hart, of Edin-

burgh.

The presiding officer will probably be Mr. Lawson Tait. The secretary-general is Dr. Jacobs, No. 12 Rue des Petits Carmes, "Bruxelles." The American secretary is Dr. F. Henrotin, 353 Lasalle Avenue, Chicago. The fees will be thirty francs for "Participating Members" and three hundred francs for "Founders."

Dr. Wm. T. Lusk has been elected an Honorary Fellow of the Obstetrical Society of London.

A Gynecological Society has been established in Mexico City; president, Dr. F. de P. Chacon; vice-president, Dr. Ricardo Fuertes.

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### ORIGINAL COMMUNICATIONS.

VAGINAL HYSTERECTOMY FOR CANCER.1

BY

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The total extirpation of the uterus for malignant disease has become so common of late years, the technique is so well understood, and the results are so satisfactory, that it would seem unnecessary to say anything in defence of the operation, were it not that it is still occasionally attacked by persons of more or less authority in the profession.

When, at the International Medical Congress in Washington in 1887, August Martin, of Berlin, reported his cases and called the attention of the profession to this operation and its results, a severe attack was made on his position by Dr. Reeves Jackson, of Chicago.

The question was fully discussed, and apparently a general consensus of opinion in favor of the operation was estab-

<sup>&</sup>lt;sup>1</sup> Read before the Medical Society of the State of New York, at Albany, February 4th, 1892.

lished. A great number of cases were afterward reported, and with increasing experience the results, both as to recovery and as to immunity from relapse, became vastly better, so that at the Tenth International Medical Congress, held in 1890 at Berlin, the operation was accepted as fully established in principle, and the only questions arising were those concerning methods, limitations, and ultimate results.

But now comes Mr. Tait, in his work on "Diseases of Women and Abdominal Surgery," and with characteristic dogmatism, and a positiveness of assertion which is quite Taitesque, says: "The proposal to deal with cancer of the uterus by complete removal of the organ meets, I need hardly add, with my strong disapproval. My reasons are that its primary mortality must always be heavy, and that the few cases in which the disease does not occur are clearly errors of diagnosis. Further, operations for a disease which gives unjustifiable secondary results have no place in good surgery, and it complicates, in the confused mind of the public, the issue of electing to have operations performed the secondary results of which are perfect. As I like my work to be stable, I have always opposed this cutting out of the uterus for cancer, and my first judgment has been confirmed by the results."

Now, those who make sweeping assertions and lay down dogmatic conclusions are not wise in publishing reasons. Their authority might pass unquestioned—stat magni nominis umbra—but their reasons are subject to criticism, and in this case I do not hesitate to say that Mr. Tait's conclusions are founded on mistaken premises. In the first place, the primary mortality is not always "heavy"; in the hands of men of skill and experience it is very low, and even then the deaths are usually in cases which come under operation after unjustifiable delays.

The second proposition, that cases which do not recur are due to errors in diagnosis, is a simple insult to the judgment of all operators who differ with Mr. Tait and to the pathological knowledge of the whole modern scientific world.

The third reason is not only mistaken but unjustifiable; it is simply a refusal to give Mrs. A. a chance to have her life saved by vaginal hysterectomy for cancer, for fear that if the disease recurs in Mrs. A. it will discourage Mrs. B. and Mrs. C.

from submitting to an operation for pyo-salpinx, or ruptured tubal pregnancy, or some other proper and necessary operation. I fail to see how any surgeon has a right to deliberately refuse succor to the individual, in order that other and unknown persons may perhaps in the end receive greater good.

These remarks have been prompted by a recent leading article in a journal published in this State, in which the author, Dr. Evans, of Saginaw, Mich., quotes the views of Mr. Tait, and, sheltering himself behind the authority of the latter, proceeds to attack not only the judgment but the motives of sur-geons who perform vaginal hysterectomy for cancer, while in quoting statistics he has fallen into egregious error in at least one case, regarding those of August Martin.

This paper and the prominence given to it show that there are still those who are willing to let their theory of the constitutional nature of a supposed cancerous diathesis warp their judgment as to methods and distort their conclusions, which should be founded on facts rather than on ancient theories.

I will not pursue this question further, but will briefly touch on some points of general interest of a strictly practical nature, and, after reporting my experience, will call on those present to report the results of their operations, assuming that if with a low primary mortality the life of women strick-en with cancer of the uterus can be prolonged for months or years, and in a large proportion of cases saved entirely, the operation is justified by the facts, all theories to the contrary notwithstanding.

On this occasion, and with a limited time at our disposal, I shall say little concerning the technique of vaginal hysterectomy, but will merely discuss the general questions involved, such as the indications for the operation, the choice between total and partial extirpation of the uterus, and the limitations and results of the latter operation.

Diagnosis.—Although it is often very easy to make a diagnosis simply by gross appearances, which are sufficiently familiar to all experienced physicians, yet unfortunately, when the diagnosis has become easy, the disease has usually progressed to a stage where operation is difficult or perhaps

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impossible. An early diagnosis is therefore particularly desirable, for in the incipient stages of this disease total extirpation is easy and safe, and gives excellent chances of permanent recovery, while if delayed too long the operation is formidable and difficult of accomplishment, while the chances of recurrence are so great as to discredit the operation and almost justify the expressions of Mr. Tait referred to above. It has been claimed that when cancer is discovered early and is limited to the vaginal portion of the cervix the partial operation is all that is necessary, and this opinion has been supported by the statistics of Schröder and Hofmeier, which show greater immunity from relapse after high amputation of the cervix than after total extirpation of the uterus. These statistics, however, are sufficiently explained by the fact that Schröder and Hofmeier reserved total extirpation for cases which were so far advanced, or so situated, that simple amputation of the cervix would not be sufficient, while the latter operation was performed in the early cases and in those which were least likely to recur. The consensus of opinion among surgeons is now, however, decidedly in favor of removing the whole organ whenever the diagnosis of malignant disease is clear. I accept this view of the case without hesitation, as I believe that total extirpation is not more difficult and very little more dangerous than the really high amputation of the cervix, and that it affords greater immunity from relapse. The only cases where the question is debatable are those of cancroid (epithelioma) of the vaginal portion of the cervix, while in cases of carcinoma of the mucous membrane of the cervix, or of carcinomatous nodule of the cervix, or in malignant disease of the fundus, it is agreed on all hands that total extirpation should be performed as soon as the disease is discovered, if fortunately the diagnosis is made before it is too late to operate. It is important to remember that while an accurate distinction of the seat and nature of malignant disease of the cervix is easily made after the specimen has been removed, yet in any given case it is not possible to decide how far up in the uterus the disease has extended, and therefore it is manifestly wisest to remove the whole organ, on the same principle that surgeons always remove the whole mamma, and even the contents of the axilla, for cancerous

disease of any part of the breast, preferring a slightly increased risk from the immediate effects of the operation to the terrible danger of relapse, which must be incurred in cases where too little tissue has been removed. The diagnostic symptoms of cancer of the cervix as laid down in the text books, such as pain, hemorrhage, and foul discharge, are referable mostly to advanced stages of the disease, where the diagnosis is of course easy, while in the early stages there may be few urgent symptoms and an examination will show only an indolent ulcer, usually in the site of an old laceration. The ulcer is intractable under treatment, bleeds easily, has thick, uneven borders composed of friable tissues. In general it may be said that where the borders of the ulcer can be easily broken down with the finger, or where whitish pieces which crumble easily can be scraped out with a curette, the affection is probably malignant; in some cases the diagnosis can only be made by the microscope. It is certainly the duty of the attending physician to make a careful examination of any patient who complains of irregular hemorrhages, especially if she is over 30 years of age; and many valuable lives could be saved if physicians would examine their patients thoroughly instead of simply prescribing for the hemorrhage. Metrorrhagia and menorrhagia are not diseases in themselves, but are mere symptoms which imperatively demand an accurate diagnosis. In doubtful cases a wedge-shaped piece of tissue should be removed for an examination by an expert; for this it is rarely necessary to etherize the patient, as the tissues, which are not very sensitive, can be benumbed by cocaine; the hemorrhage is easily controlled by styptics and gauze packing, or, if necessary, by a single stitch.

In malignant disease of the body of the uterus total extirpation is the only operation which offers any chance of cure, and therefore should be performed as soon as the diagnosis is made. In these cases the microscope is of the greatest service. for the hemorrhage is usually a prominent symptom, so that the uterus is curetted at an early stage of the disease, and a microscopical examination of the fragments removed will throw great light on the nature of the disease. Sometimes even without the microscope a diagnosis can be made from the gross appearances of the fragments, which are whitish,

thick, and friable, and entirely unlike hypertrophied mucous membrane; very frequently, however, the disease can be detected at an early stage where even the microscope does not show carcinoma, but where there is an adenomatous thickening of the mucous membrane of the fundus. In these cases, after the menopause has been established, perhaps for several years, irregular hemorrhages begin, which are usually relieved by curetting. This operation has to be repeated many times at intervals of a few months; very considerable masses of tissue, resembling mucous membrane, being removed, which under the microscope are found to be composed almost entirely of glands, with very little intervening connective tissne. All these cases eventually terminate in carcinoma, and therefore total extirpation should not be delayed, although I have known the radical operation to be discountenanced by a pathological expert who misinterpreted the microscopical appearances as implying a benign hyperplasia of the uterine mucous membrane.

It is much to be regretted that hemorrhages occurring after the time of the menopause are not regarded more seriously either by the patients or their medical advisers; and it is of the utmost importance that women should no longer believe that irregular and repeated hemorrhages occurring during and after the change of life are to be considered as merely natural events, whereas in reality they are too often the early symptoms of the gravest forms of disease.

I have now performed the operation of vaginal hysterectomy thirty-one times, in every case except one for cancer or malignant adenoma of the uterus; the youngest patient was 26, the oldest 66 years of age. All the patients recovered from the immediate effects of the operation, except two; one of these, who was operated upon in New Hampshire and was not seen by me after the operation, died at the end of a week with symptoms of peritonitis, with very obstinate vomiting. One patient, operated on in a distant portion of Massachusetts, died on the fourth day without fever, apparently from simple heart failure. This was the only death, in the last twenty eases, from the immediate effects of the operation, and neither of these eases was seen by me after the operation.

Another patient, one of the early cases, where the disease

had invaded the left broad ligament so that the clamps had to be applied to unhealthy tissue, did very well for ten days, so that she was considered out of all danger. She felt so well that, without permission, she sat up in bed to take her supper. The same night the patient in the next bed heard her make a strange sound and saw her make a convulsive movement; the night nurse, who quickly went to her bedside, found her dead. No autopsy was made, but it was thought probable that death was attributable to embolus from the detachment of a clot in one of the stumps.

In regard to ultimate results, subtracting from the whole number of thirty cases of cancer the two who died from the operation, and three cases, including the one above mentioned, where the whole of the diseased tissue could not be removed and one of which died, there remain twenty-five cases in which, with greater or less difficulty, the whole uterus was removed and the clamps applied to apparently healthy tissue. Three of these operations have been performed within the last nine months and are therefore unavailable as far as regards the question of recurrence. At any rate, the patients are doing well so far. Of the twenty-two other cases which recovered and which have been operated on for a year or more, five are dead and two will soon die from recurrence of the cancer. The other fifteen are in excellent health, as well as the three recent cases above referred to. With a single exception, already mentioned, the convalescence was extremely easy and uneventful. There was no elevation of temperature or any sign of peritonitis.

In regard to the technique of the operation I will not occupy much of your time. I formerly always used clamps instead of ligatures, not only because thereby the operation is shortened, but because the weight of the handles insures thorough drainage, and the tissue seized by the clamps can be crushed and the lymphatics obliterated before the scissors are used, thus diminishing the chances of cancerous infection of the lymphatics of the stumps and broad ligaments, and permitting the severance of the latter further from the uterus than would be possible by the use of the ligature alone. Lately, however, since seeing Olshausen operate in Berlin, I have in a number of cases used catgut ligatures, tying off the

broad ligament in several sections; instead, however, of closing the wound in the roof of the vagina, as Olshausen does, I have left it open and secured drainage with iodoform gauze.

I have brought here a few of the uteri removed by total extirpation in the cases above referred to. An inspection of these will give, better than any description, an idea of the condition of the cancerous uterus; of the tendency of the affection to extend above the internal os; of the varying distance, both in front and behind, at which the peritoneum is reflected from the body or neck of the uterus; of the adhesions which may tie down the fundus or hold the tubes and ovaries fixed, thereby greatly complicating the operation and rendering it extremely difficult. Of all the thirty-one cases, I can only remember five where the organ could easily be drawn down and the clamps applied with the facility described in some accounts of the operation. In two cases there were present small ovarian tumors, which were removed through the vaginal opening; one was a dermoid, one a multilocular cyst.

There are certain limitations to the operation of vaginal hysterectomy which must be carefully observed, for if unsuitable cases are subjected to this operation not only is the immediate risk enormously increased and the operation itself rendered formidable and sanguinary, but the probability of relapse becomes so great that the operation itself is discredited. The first contra-indication is serious disease of other organs, especially of the heart or kidney, or the presence of such great weakness from eachexia or loss of blood as to render it improbable that the patient can withstand the shock of the operation. The latter condition, however, can often be overcome by a preliminary operation whereby the diseased tissues are removed by the curette and cautery, so that after a few weeks of rest in bed, with proper care and good food and tonies, the patient is in a condition to undergo the radical operation. When this is to be performed, the first point is to ascertain whether the disease has invaded either broad ligament to such an extent as to have passed beyond the point where the clamps or ligatures can be applied. This point can usually be determined by examination through the rectum, especially when the uterus is drawn down by forceps. When

the uterus cannot be drawn down the operation will certainly be difficult, although the adhesions which hold the organ may not be malignant in their nature, but the results of old pelvic inflammation or of disease of the uterine appendages. When the cancerous affection has involved the vagina or the tissues about the rectum or bladder to any considerable extent, vaginal hysterectomy is contra-indicated. In all such cases it is not to be inferred that surgery offers no prospect of relieving suffering and prolonging life. By careful removal of the diseased tissues and thorough application of the thermo-cautery the condition of the patient can be very much improved, and in some cases life can be prolonged for several years, although usually a respite of six or eight months is all that can be expected from such palliative treatment.

Thirdly, there must be sufficient space in the vagina to permit of the delivery of the tumor, where this is large. In cases of malignant disease of the body of the uterus, in unmarried women, it is often impossible to remove the uterus through the narrow vagina, and in these cases, after curetting and cleansing the cavity of the uterus, the os uteri may be closed with stitches and the vaginal connection severed, and then the abdomen must be opened and the whole of the uterus removed from above. Such a procedure, however, does not come within the scope of this paper.

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#### UTERINE DRAINAGE.1

BY

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A LITTLE more than twenty years ago, when I was interne at Bellevue Hospital, gynecology consisted almost exclusively in examining women and talking about the condition of the neck of the womb. Sometimes an attempt would be made to

<sup>&</sup>lt;sup>1</sup> Read before the Medical Society of the State of New York, at Albany, February 3d, 1892.

sew up a perineum or to close a vesico-vaginal fistula. I never saw uterine treatment, as distinguished from cervical, attempted at Bellevue during my term as interne. When I went from Bellevue to the Woman's Hospital I found that there they tried to apply intra-uterine treatment, but in what I considered a very imperfect way. It consisted in sucking away with the syringe or swabbing away the plug of mucus in the cervical canal in women who had chronic endometritis, and then passing up some medicament on a probe wrapped with cotton. Iodine was the favorite medicine which it was attempted to introduce into the uterus in that way. Even as a student I recognized that such attempts must prove in large measure failures; that it would be impossible, owing to the spasmodic and hardened condition of the os, the presence of a plug of mucus, an indurated state, or other reasons, to convey any efficient quantity of the liquid contained in the cotton up into the uterine cavity. I demonstrated this by attempting, by means of the applicator, to apply the medicine to the palm of my hand while the hand was closed. By the time the cotton reaches the interior of the hand it has lost so much of the iodine that scarcely a stain is produced. The same thing occurs in passing the cotton probe into the uterus; before it gets beyond the os internum hardly enough iodine remains in the cotton to stain the lining membrane. While yet interne at the Woman's Hospital I had an instrument made to prevent the loss of the fluid while the applicator was passing through the cervix. It consists of a silver tube of suitable size with a long, slender handle. The tube being introduced just beyond the os internum, the probe passes through it without coming in contact with the cervix, and all the fluid contained in the cotton wound about it reaches the interior of the uterus. The only other attempt to meet this condition was that of Dr. Peaslee, who made use of a kind of thimble with a fenestrum; the blind end being introduced into the uterus, the medicated cotton probe was brought in contact with the mucous membrane at the fenestrum, without, of course, being rubbed off in its passage through the cervix. But one great objection to this instrument was its size, which necessitated previous dilatation of the cervix, the dilators then used being

some kind of tents. The advantages of the cervical speculum the name my instrument goes by—are evident. When I left the Woman's Hospital no important change

When I left the Woman's Hospital no important change had taken place in the treatment of disease of the uterus, and, so far as I know, no great changes have been made since, unless within the last two or three years. Dr. Emmet has stated comparatively recently that he does not use the intrauterine sound, does not even own an intra-uterine applicator, and does not make applications above the os internum. Holding that there is no mucous membrane within the uterus, and therefore that there can be no inflammation of it, he does not treat it.

In 1876-77 I was associated with the late Dr. J. Marion Sims in all of his work, both public and private, taking charge of his cases before and after operations. He did not believe in, or did not attempt, much intra-uterine treatment, confining his work in this line to dilating the os or incising it and putting in what he called an iron cotton plug and vaginal tampon. He had great fear of hemorrhage. I had been trained in general surgery before going to the Woman's Hospital, and on entering upon gynecological practice I attempted to apply the general rules of surgery in these cases, and had many dis-cussions with Dr. Sims about draining the uterus. I claimed that, instead of putting in the iron cotton plug. I could do better by putting in gauze, or lampwick, or several strands of wire, or a glass plug with a hole in it. Finally I took the firm stand that all cases of chronic endometritis uncomplicated by salpingitis or ovaritis should be first freely divulsed or dilated, curetted if necessary, and then drained. I tried the gauze, the lampwick, also three or four strands of wire, and even a kind of wire eage through which drainage could take place; but finally it came down to the hard-rubber, grooved, bent tube with a slight bulb on its end. But at that earlier date I would, in cases of chronic endometritis with dysmenor-rhea, divide the os or divulse it and put in a straight glass stem. Later I changed that glass stem—used with a view of straightening the uterus—to a curved hard-rubber drainage tube, making a groove on the side so as to secure drainage. By the presence of the slight bulb on the end uterine contractions are prevented from forcing it out.

Since the date mentioned I have continued this practice in cases of chronic endometritis without much enlargement of the uterus (in the worst cases the uterus is not likely to be much enlarged), and the result has been almost uniform success. When appointed gynecologist to Bellevue I tried different methods, but found the one just referred to the most successful. By it I have been able to cure beyond question not fewer than four cases out of five of chronic endometritis uncomplicated with salpingitis, and to-day I think we can cure nine out of ten by the same means.

When I began teaching at the New York Polyclinic nine years ago, one of the first things which I dwelt upon was that, where the uterus was chronically inflamed, the glands and follicles diseased, the mucus membrane thickened, the case should be treated on the same principles that were applied in general surgery; in other words, that the uterus should receive the same treatment which surgeons applied to abscesses lined with pyogenic membrane in any part of the body, with this difference, that once a month the uterus is subject to great changes so far as concerns its circulation—that is, the congestion preceding and attending the menstrual flow complicates the case and simulates what is known as inflammation. Again, the lining membrane of the uterus in these cases, unlike a simple pyogenic sac, contains glands and follicles, and when these are affected the disease is more deeply seated. Therefore we cannot expect to cure so readily a diseased uterus by dilatation, curetting, and drainage as we can an abscess cavity; but I have always taught that the simple principle of surgery, to dilate, curette, or scrape out thickened and diseased tissue, and drain, can be applied inside of the uterus, of course taking into account the fact that the woman menstruates every month, and that the uterus is filled with glands and follicles, and that there is a firm sphincter or contracting muscle in the cervix. In consequence of this teaching I think several hundred students could easily be found who have gone home from New York and carried out more or less constantly this mode of treatment. The method, so far as I know, was never taught before I began practice; it certainly was not written about. Since beginning the practice of medicine I have not written a single gynecological paper, in which chronic endo-

metritis was mentioned, in which I did not bring out this mode of treatment-namely, to dilate, curette, and drain. In fact, in one of my very first papers, which was on anteflexion and associated pathological conditions, the plan proposed for treating the chronic endometritis and dysmenorrhea associated with anteflexion was the same as I propose in most forms of chronic endometritis. I have never at any time practised the old method of burning the mucous membrane of the uterusof making a scar-if in any way it was possible to avoid it. I neither burn with the caustic, with the actual cautery, nor with the galvano-cautery. I have always recognized the fact that it was a most difficult thing to use chromic acid, nitric acid, or any strong cautery, or galvano-cautery, or actual cautery, on the tissues of the cervix or within the uterine cavity, without making an irregular and ugly scar. The fact is, no one can take nitric acid and burn evenly the whole cavity of the uterus, as evenly as it can be scraped with the curette. In one place all the glands will be burned out, while at another only the mouths of the follicles will be touched and be closed and result in obstruction to drainage. Hard nodules will then form in the tissues of the cervix or uterus and produce serious reflex disturbances. These results of some form of cauterization of the uterus were common enough ten years ago, and even to-day we frequently find women, who had been treated for chronic endometritis during earlier life, suffering from reflex nervous troubles arising from nodular masses in the uterus, the result of former cauterization.

I have never advocated any stronger application in these cases than pure carbolic acid or carbolic acid and iodine. First the cervix is dilated or divulsed (and there is a distinction between the two); then the cavity of the uterus is curetted with the steel instrument, not with the soft, blunt copper instrument; following this pure carbolic acid or carbolic acid and iodine are applied and drainage is established. More especial reference being now made to those cases of chronic endometritis, dysmenorrhea, and anteflexion with a spasmodic and indurated condition of the os, I have never found that in cases of this class gauze drainage would answer the purpose. In my hands it has proven uniformly a failure. I

recognized the fact many years ago that the principal reason why doctors often failed of success by dilatation, curetting, and drainage, in cases of extreme anteflexion with induration, was due to using a straight dilator and putting in a straight glass stem which really did not enter the uterine cavity. They simply elongated and dilated the cervix, so that they thought they had entered the uterine cavity, when in fact they had not passed the os internum. I have had within ten days three cases come to my office in which without doubt that was the point of failure in treatment previously applied by other physicians. One was a woman who had been treated by an eminent gynecologist of Harlem for a year outside of his hospital; then he took her into his private hospital for the purpose of performing an operation. He dilated the cervix, and put in a glass stem, as was supposed into the uterine cavity, but it made her worse rather than better. In other words, the doctor had the woman under his care for two years to do literally with her as he wanted to, and yet he failed com-pletely to cure this ordinary case of dysmenorrhea and sterility. I examined the woman, found the uterus flexed sharply forward, the cervix somewhat enlarged and elongated, and simply repeated the treatment claimed to have been carried out before, with this exception, that I used a curved dilator, and instead of holding the os down while dilating (which in reality would mean its elongation) I let the cervix go up as far as it would in the vault, rather pushed it up and thus shortened it, and then introduced the dilator. Having dilated, instead of putting in a glass stem an inch and a half to two inches in length, which had been used before and evidently had not entered the uterine cavity at all, I used a curved rubber tube, sufficiently long, and with a deep groove on the side. The patient's next menstrual period was almost entirely free from pain. By uterine applications to be made to the mucous membrane soon after this menstrual period, I expect the next period to go by without any pain whatever; and, unless there is some other reason to prevent, I shall expect her to become pregnant within three to six months and be perfectly cured. With the method of holding the cervix down while dilating and while introducing the stem, the stem being the straight glass one, one will fail to cure fifty per cent of cases

of chronic endometritis of this kind. I also claim that in these cases with decided anteflexion and a strong tendency to spasmodic closure of the os internum, it is practically impossible to get good results from trying to introduce iodoform gauze or gauze of any other kind. There are some now taking a great fancy to the so-called new method of treating these cases—that of attempting to drain the uterus by the introduction of gauze. But the method is not new, and, moreover, in cases of chronic endometritis associated with dysmenorrhea it is practically impossible to get the gauze within the uterus and keep it there. If one were to dilate the os thoroughly with a sponge tent, or in some way to the extent of admitting the little finger into the uterus, there might be some sense in trying to drain the uterine cavity with gauze. But to take an imperfectly developed uterus, one which is small and hard, and attempt to dilate sufficiently to enable one to introduce a large-sized tube like the one here shown—and which, it is claimed, is used for that purpose—and introduced. duce gauze through it into the uterine cavity, I claim that it would necessitate splitting the os. I believe the writer of a recent paper said that he did not refer to that class of cases of chronic endometritis, that he referred to cases in which the uterus was large; and he gave as a typical case that of a woman who not very long previously had had a child, and whose uterus, when she came to the hospital, measured three and one-half or more than four inches in depth; that he dilated this uterus, curetted, and put in gauze. Now, when a woman comes to me in whom the uterus measures three and one-half or four inches or more. I know that she has either subinvolution or a tumor and it is not a case which can fairly be called one of chronic endometritis. It is true that endometritis is associated with this condition, but it is not a kind of endometritis which requires drainage by gauze. The uterus in those cases is usually more or less patulous; you can easily dilate it. easily curette it, and can put in your gauze and drain it. But in cases of subinvolution of this kind I would simply put in boroglyceride twice a week, and in three to six weeks would expect to find the womb reduced to nearly its normal size, unless it contained a new growth or retained placenta, or there were some similar condition. If the boroglyceride failed to reduce it, I would then dilate, scrape, and drain; but in that event one would not need the gauze. The condition of the mucous membrane depending upon a diseased state of the Fallopian tube, a new growth, or other state, the causative factor would have to be removed.

Again, I must say that a person introducing gauze into the uterus and leaving it there over twenty-four hours is not do-ing what can be termed a perfectly safe thing. I do not doubt but what iodoform gauze might be left in the uterus for two or three days, many times without doing harm; but if air should get to the gauze and there was much secretion, a septic condition might readily be excited, or one already existing might be increased. Besides, the gauze drains well for a few hours, but soon gets clogged with thick, tenacious mu-cus and really obstructs drainage, and does not act in the uterus as well as in old abscesses, etc. I claim that in the cases of intractable chronic endometritis—those in which the body of the uterus is usually small, the cervix often somewhat enlarged, with cervicitis; cases which boroglyceride, simple dilatation, and curetting will not cure—something more must be done to secure drainage than the use of gauze, if one would get the best results. These remarks are not prompted by the fact that I am in love with any one method of treatment for its own sake, but rather by the fact that I have tried all methods and have found that the one already described is the best. You must, in order to secure drainage, have something which is firm, which is curved like the uterus, which has a slight bulb to keep it in, which at the same time gives egress to the secretions. Further, any procedure which necessitates such extensive divulsion or dilatation of the imperfectly developed uterus (for the uterus is imperfeetly developed in most of these cases) as to tear or paralyze the os internum is a dangerous procedure. The dilatation, if it completely overcomes the tendency to close, must in many cases tear directly through the whole uterine wall and enter the broad ligament and sometimes the peritoneum. The operation of cutting the os internum has for many years been given up by all prudent operators, for the reason one can never be certain whether he is entering the peritoneal cavity. To obviate the necessity for a cutting

operation or for dilating the os internum to a dangerous extent, I simply dilate until I can pass in a good-sized hard-rubber drainage tube. The object of the tube is not at all to straighten the uterus, but simply to keep the os internum open and drain the cavity. The hard tube left in for a week overcomes the tendency to spasmodically close tightly down, such as often exists. If gauze were introduced it would be forced out with the first uterine contraction, or would have little effect in keeping open and overcoming the tendency of the os internum to contract. I repeat that something must be put in which will keep the canal open, which will remain clean, and which can be readily changed. The course which I usually pursue is to dilate the cervix, cleanse and curette the interior of the uterus, then swab it out with pure carbolic and the read to be a cited the cervix. acid through a silver tube, introduce the hard-rubber drainage tube, place some iodoform gauze at the vault of the vagina to prevent retroversion of the uterus and easy expulsion of the tube. The iodoform gauze is removed on the second or third day, and is replaced by boroglyceride cotton. This is taken out every second day. The tube is taken out at the end of a week or ten days and the vagina is washed out. In this way nine cases out of ten of what I understand as chronic endometritis with dysmenorrhea are cured.

But, as I have said heretofore, there are some cases in which the best drainage and scraping, no matter whether the wonderful iodoform gauze or other drain be used, will fail. In some of these cases I am unable to sav whether there is a true fibroid degeneration involving the mucous membrane of the uterus, but certain it is that one can feel hard, nodular masses well up in the body of the uterus or in the region of the os internum. In such cases it is almost impossible to of the os internum. In such cases it is almost impossible to effect a cure except by removing the tubes and ovaries; that is, by completely stopping menstruation and the physiological function. You may dilate, scrape, and drain, but the trouble will reappear. Another very rebellious class of cases is that in which there is an irritating discharge, especially just before menstruation; in which the discharge from the uterus is of such an irritating nature that it causes the vagina to swell, sets up a kind of vaginitis, may even cause a burning and irritation of the urethra and bladder. The discharge is not one of thick, tenacious mucus, but is thin and ichorous. A digital examination in such a case is very painful to the patient and readily causes the tissues to bleed. When you meet with a case in which those conditions are present, you may know beforehand that it will prove very difficult to cure. You may place the patient under other, dilate and scrape the uterus, and keep it drained. She will apparently be better for some weeks, but after another menstrual period her condition will probably be just what it had been before. Some of these obstinate cases can be cured by complete amputation of the cervix, which may be filled with diseased glands.

How to explain such cases involves some uncertainty. My own view is that there is some disease deeply situated in the glands and follicles, while the treatment reaches only the superficial structures within the uterus, and therefore the germs, or whatever may be the active agent of the disease, come to the surface after each menstruation and renew it. These cases are benefited very much by removing the tubes and ovaries, which stops menstruation; but I have never yet resorted to this procedure except in rare cases, unless the case was complicated by pyo-salpinx. But in certain cases of this kind it is very difficult, if not impossible, to effect a cure simply by means of dilatation, curetting, and drainage.

simply by means of dilatation, curetting, and drainage.

Lately I have added to my method of treating chronic endometritis, washing out the interior of the uterus. In septic cases I had used it right along for years. Of course in cases of puerperal fever we now all recognize that the best thing to do is to dilate and empty the uterus and wash it out. Ten years ago, when I was appointed visiting gynecologist to Bellevue, it was understood by washing out the uterus in cases of septic poisoning that it should be done only two or three times in twenty-four hours. In 1883 I wrote a paper in which I stated that to wash such a uterus only once in eight hours, or two or three times in the twenty-four, would do little more good than to wash the top of the patient's head. I stated that there was no way of washing the uterus which would kill all the germs by one washing, in cases of septic endometritis, with certainty; that where the disease had lasted more than twenty-four or forty-eight hours it must have penetrated the tissues so deeply that to wash out must

affect only the superficial parts—the germs which were on the surface—and that in a short time other germs would have time to develop, so that the parts would be in the same condition they had been in previously. But I had, by means of a more efficient method of washing out the uterus, cured cases which had generally been regarded as certainly fatal, so when I became connected with Bellevue I introduced the method there. The change was from washing the uterus three or four times in the twenty-four hours to washing it every hour until the temperature fell to normal. This was to be done even if it required two or three days. I took nine cases, selected by others as well-marked cases of puerperal fever, and treated them by this method, giving nothing except in some a little quinine, keeping the bowels regular, and feeding well. By this means I cured seven out of the nine cases; in other words, I reversed the relation of the recoveries to the mortality. Previously, in similar cases, there had been four deaths out of five, whereas I cured about four out of five.

Having had such great success with washing out the uterus in acute sepsis, I thought it was possible that in some cases of chronic endometritis a cure might be effected if this method, in addition to that already described, were persisted in. I have tried this procedure in some cases which had resisted dilatation, curetting, and drainage, not only as practised by myself, but as applied by some of the best gynecologists in the world. One was the wife of a German merchant, who had been to Hegar and other physicians; and when she came to me with a history of having suffered from chronic endometritis the past six or seven years, I washed out the uterus twice a week, which gave her complete relief from the suffering due to the irritating discharge. Having found that she has not been curetted for over a year and that the uterus still remains large, I am going to put her under ether, wash out the vagina, dilate and curette the uterus thoroughly, wash it out every two weeks to within three or four days of the menstrual period, then, if the pain returns during this period, wash out afterward every two or three hours for a day or two, and see if it is possible to thus kill the poison which seems to develop in the glands and follicles and deep tissues

According to past experience, we can prevent the symptoms of the disease to a certain extent, but thus far we have not been able to keep it down entirely.<sup>1</sup>

I have tried to make my remarks upon chronic endometritis altogether practical. When a woman comes to me for uterine disease, I try to determine whether the disease is confined to the uterus or whether it is complicated by disease of the tubes and ovaries. Whenever I find that the uterus is movable, and there is no tumor of the ovaries or broad ligaments, or other sign of disease there, I tell the woman that the chances are nine to one that I can cure her within five or six weeks. What I should do would not be to keep her running to my office for six months, but to send her to my hospital. If the uterus was subinvoluted, I would treat her with boroglyceride, etc., for two or three weeks, then dilate, scrape, drain, and cure. While I have been practising this method for at least twelve years, and have been teaching it at the Polyclinic for eight years, yet some of my colleagues in the city, who have been trying to scrape the uterus and drain by iodoform gauze, claim that the method had never been used before. The result of this method of treatment has been to lessen my office practice but increase largely my hospital practice; for cases which before continued to come a long time to my office, now are cured in three to five weeks at my hospital and return to their homes.

With regard to the curette, while I cannot say that I never years ago used the dull copper curette, yet, to make a free confession, I never had much faith in it. It is too weak; it has no backbone. I doubt whether the man who says he can curette the movable uterus with firm granulations with an instrument like that will make a good surgeon. To make such a statement would seem to show a lack of common sense. While he may be able with it to bring away some loose body or granulations, yet to attempt to thoroughly clean out the uterus with it is simply a farce.

This other curette, the sharp, firm, steel curette, was one of the latest inventions of that master of gynecology, the man who first united surgery and gynecology and for the first time

<sup>&</sup>lt;sup>1</sup> Since writing the above I have completely cured the case by amputating the cervix and cutting away the diseased glands.

in this country did good gynecological surgery—J. Marion Sims. He did not invent it to curette the uterus for chronic endometritis, for he had not yet become completely imbued with the principles of more modern surgery; but he had the instrument made in the first place to scrape for cancer, and afterward he found that it was useful in any form of new growths in the uterus. With it one can scrape, but there really is no danger of cutting the firm tissues with it.

I have always explained to the class that in curetting the uterwal it must be remembered that were larger of carried and the class that in curetting the

I have always explained to the class that in curetting the uterus it must be remembered that you have a soft, flexible, movable body, and not a fixed body. If the uterus were firmly fixed I think an instrument of that kind might seriously injure it if it were scraped hard. I do not advise curetting the large, soft uterus without first reducing it in size. One should use the forceps for the removal of large pieces of placenta, rather than the curette, for it is very easy to penetrate the walls in the subinvoluted uterus. And take the ordinary uterus with fungous growths in it: if the organ is fixed by disease of the tubes and the uterus you have no business to curette, unless, indeed, it be a very subacute condition. Still, there are men now advocating curettement even where the tubes are distended with pus. I am not prepared to go so far. While bold enough to have the courage of my convictions in surgery, I am not bold enough to dilate, curette, and drain where the tubes probably contain pus or the ovary an abscess. I would first attend to the pus sac, and not run the risk of bursting it and setting up a fatal peritonitis.

But in cases where there is no exudation, where the uterus is movable and flexible, I claim that it is almost impossible with a curette which is not very sharp to scrape and do serious injury. The tissues recede before the instrument in such a way that it is almost impossible to dig into them. It is possible to injure the os internum if the instrument is not well made, but otherwise there is no danger from the curette in the hands of a surgeon who understands and practises cleanliness. With the steel curette you can scrape the lining membrane properly, which I claim it is impossible to do with the soft, dull copper curette.

## MY EXPERIENCE WITH OÖPHORECTOMY FOR THE CURE OF HYSTERO-EPILEPSY.

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My experience with the removal of the ovaries for the cure of hystero-epilepsy is confined to five cases. Women, chiefly young girls, have occasionally been brought to me with true epilepsy which was supposed to depend upon some derangement of the menstrual function or some disease of the uterine appendages. I have seen a fair number of such cases, but in no instance was I able to detect on thorough examination any disease of the appendages or any connection between the functions of ovulation and menstruation and the epileptic seizures. Of course in such cases I invariably refused to advise or perform oöphorectomy.

But as regards the so-called hystero-epileptic convulsions my position is somewhat different. By hystero-epileptic convulsions I mean seizures of an epileptic character which occur near or at the menstrual periods and appear to depend upon, or at all events to be connected with, the functions of ovulation and menstruation. These attacks differ from the true epileptic seizures in that the patient is rarely thoroughly unconscious, seldom froths at the mouth, and, after a more or less speedy recovery from the attack, is entirely herself again and does not fall into the deep sleep which usually follows true epileptic attacks. Besides, if the patient happens to be seen during such spurious epileptic seizures, firm pressure over both ovarian regions with the fingers, either per vaginam or through the abdominal walls or bimanually, will usually succeed in immediately reviving her. In true epilepsy no

<sup>1</sup>This paper was prepared for the discussion on this subject at the meeting of the New York State Medical Society on February 3d, but was not read, as the author was obliged to leave before the discussion began.

such result is to be expected. Further, the continuance, even for years, of the hystero-epileptic attacks does not as a rule affect the patient's mental condition, and she remains mentally as sound as she was at the beginning of the illness. In this respect also the spurious form differs from the true variety of epilepsy. I should say that it is not always easy to differentiate between the two varieties, except in aggravated cases of true epilepsy, where there can be no doubt whatever as to the diagnosis. To repeat, I do not consider true epilepsy ever to call for the removal of the ovaries with a view to a cure of the disease.

It may be known to many of the profession that I am very conservative as regards the removal of ovaries and tubes, unless I am reasonably sure, not only from the symptoms complained of by the patient but also from repeated examination, that the organs are so diseased that there is no hope whatever of a cure by non-surgical means. Feeling as I do, therefore, on this subject, I certainly am still more conservative when appendages which are not known or claimed to be specially diseased are to be removed; and in this respect my remarks apply equally to this operation, whether the supposed indication is for hystero-epilepsy or whether it is for any other form of reflex neurosis. I certainly would never remove the ovaries for dysmenorrhea, neurasthenia, hemicrania, or any other neurotic affection, however closely it might seem to be connected with the menstrual function. When, therefore, I say that I have removed the ovaries and tubes in five cases for the cure of hystero-epileptic seizures, I feel that I have exercised all due caution in the choice of my cases and have operated only when I conscientiously believed that it was the sole means of relief which I could offer to the patients. My object for operating was, of course, always the idea of inducing the early cessation of menstruation and thus removing the cause of the reflex epileptiform convulsions. The results of my conclusions, as will be seen from the following brief histories of four of my five operations, triumphantly confirmed my expectations.

Case I.—Widow, 36 years, no children. Hystero-epileptic seizures for several years. Various hallucinations. Insisted on operation. Ovaries and tubes adherent, but apparently

not diseased. Recovery protracted by intractability of patient. Temporary improvement; no return of convulsions. Discharged apparently cured, although mental symptoms still doubtful. Operated in April, 1883. Three months after discharge committed suicide by suffocation with gas in a downtown lodging house. I do not consider this case a fair specimen of either the indications for or the result of oöphorectomy, and report it merely as the first of my series. The mental disorder in this case undoubtedly overshadowed the reflex neurosis, and confirmed my belief that removal of the ovaries for incipient or well-developed mania is not indicated and should never be performed.

Case II.—M. K., 24 years of age, married three years, no children. Lacemaker by trade. Was sent to me early in February, 1884, with the request, if I agreed, to remove her left ovary. She gave a history of convulsive attacks followed by prostration, which began about two years ago and occurred nearly every week, rendering her unfit for work and making life practically unendurable. She had begun to menstruate in her thirteenth year; had always been regular but scanty, with considerable pain. After marriage, however, the dysmenorrhea increased, and for a year she has scarcely ever been free from pain in both ovarian regions, but chiefly in the left. This pain increases greatly before each convulsive seizure comes on.

The patient is a slender, pale, sickly-looking, emaciated woman, with deep lines of suffering in her face. Examination shows uterus slightly anteflexed, somewhat less movable than normal, ovaries not to be detected, but pressure in left vaginal vault shows slight fulness and causes great pain. From this examination I felt obliged to refuse the patient's earnest request to operate, and to tell her that I could not consider her unsupported statement as sufficient reason for undertaking so doubtful an operation, but that I must see and hear more of her before deciding. I therefore admitted her to my service at Mt. Sinai Hospital, and there the house staff had several opportunities to see her in her so-called convulsions, which were evidently of the hysterical type. The patient became partly unconscious, trembled and had convulsive twitchings of the limbs for twenty to thirty minutes, and then appeared completely exhausted. On con-

sultation with her physician, and after conversing with her husband, both of whom confirmed the chronic invalidism of husband, both of whom confirmed the chronic invalidism of the patient and the frequent return of the paroxysms, I at last consented to operate, the danger and doubtful results of the operation being well understood by the patient and her friends. Of course I decided to remove both ovaries, since the object was not to relieve the left ovarian pain only, but to bring on the menopause. February 26th, 1884, I removed the ovaries under the usual precautions and in the ordinary manner. Both ovaries were found adherent; the right was easily brought into the abdominal wound and detached from easily brought into the abdominal wound and detached from its adhesions, pedicle ligated, seared off, and dropped. But the left lay so flat against the posterior surface of the left broad ligament that I could scarcely distinguish it, and only by pushing up the left vaginal vault with the fingers of my right hand in the vagina could I bring the ovary and its adnexa in sight. It was completely adherent and I had to peel it entirely off, leaving a bleeding surface behind. Its pedicle was tied as deeply as possible, thoroughly seared, and dropped. On the third day the temperature went up to 103°, but rapidly fell under the ice-water coil, and recovery was uninterrupted. The patient was up and about on the eighteenth day. When the time for her menstrual period came she began to complain of pelvic pain, and at the regular time menstruacomplain of pelvic pain, and at the regular time menstruation came on as usual. She was discharged in very good condition about six weeks after the operation, and I saw nothing of her until early in May, when she came to my service at the Polyclinic, complaining of great pain in the left hypogastric region and sacrum, which she said she had had for several weeks. She had menstruated again at the regular time, about the middle of April. I examined her and found a tender mass of the size of an orange in the left broad ligament, which gave a distinct sensation of fluctuation. I behent, which gave a distinct sensation of fluctuation. I believed it to be either a pelvic abscess or a collection of serum following a hematocele, and again admitted her to the hospital for the purpose of aspirating the tumor. This was done, and about three ounces of clear, bloody serum were withdrawn. The solid outline of the mass still remained, and proved to be plastic exudation, which gradually disappeared under the influence of blisters and poultices. Menstruation again came

on about the middle of May, and again in June, and was accompanied by less pain than hitherto, but was otherwise normal in duration and amount. The patient was discharged on June 25th, much improved in general health and free from pain. There had been no return of the convulsions after the operation. The ovaries were small, and, except the numerous filamentary adhesions, showed nothing abnormal.

Case III.—A girl of 21, unmarried, was seen by me on January 19th, 1887; her symptoms were those of well-marked hystero-epilepsy, the convulsions coming on with almost invariable regularity at the approach of the menstrual period and continuing during the whole flow. The attacks were so severe that she would remain unconscious for periods varying from fifteen minutes to an hour, was liable to fall down in the street, and therefore at such times was not allowed to be without constant attendance. At other times than the menstrual period she never had any sign of the seizures. I was informed that she had been seen by Dr. Thomas a year before, who had advised removal of the ovaries, to which she could not at that time make up her mind. I myself did not feel that I was justified in recommending an immediate oöphorectomy, and therefore kept her under observation for several months. I should state that she had been under treatment, by her family physician, with local galvanism and counter-irritants for upwards of two years with no special benefit; also that the attacks had occurred, with few exceptions, at every menstrual period since her fourteenth year. Finding no improvement in the case, although I could not detect bimanually any disease of the appendages, I at last consented to perform the operation, which proved to be easy, and an uneventful recovery ensued. The ovaries were apparently not diseased, but on section were shown to be amyloid in appearance—that is, similar to a section of the kidney. The Graafian follicles, to the naked eye, were entirely absent. I have not had a microscopical examination made of the ovaries, owing to pressure of other duties, but I have no doubt that the term cirrhosis would apply to these ovaries; they certainly were not normal. For about six months after the operation the girl remained perfectly well; then I was informed similar seizures to those before complained of took place at regular intervals for a few

months, and finally entirely ceased. I met her one day about two years after the operation, when I hardly knew her because she had grown so stout. She told me that she was entirely well and was studying to be a trained nurse. So far as I know, her recovery has been permanent.

Case IV.—The patient was brought to me from Pennsylvania by her physician on September 26th, 1888. The girl was 22 years of age, single, and had been suffering from reflex neuroses, characterized chiefly by epileptiform seizures at the menstrual period and about midway between the two periods, for several years. I could not detect on examination anything abnormal with the ovaries, and at first declined to entertain the idea of their removal for the cure of the, to me, doubtful symptoms which were reported; but the physician referred to the absence of benefit from all previous treatment, and insisted so strongly upon the necessity for the operation that I finally consented. On operating I found the ovaries apparently normal; one had a small blood cyst, but, so far as the eye showed, there was nothing particularly the matter with the organs. The recovery was uneventful, and the patient returned home too soon for me to draw any conclusions from the operation. More than a year later—I do not remember the exact date—she called on me at my office to inform me of her perfect recovery and entire freedom from all nervous symptoms or anything resembling the seizures of which she complained before the operation. Curious to say, she also told me that she was studying to be a trained nurse in a school in Brooklyn. Whether the removal of the ovaries has anything to do with developing a desire for the vocation of a trained nurse I do not pretend to say.

Case V.—Patient, 24 years of age, single, came to me from Vermont in March, 1889. I had seen her at her home during the previous summer while lecturing at Dartmouth College, and had failed to find, on examination of her pelvic organs, any particular reason for the peculiar cataleptic attacks which she complained of. I should say that her attacks differed somewhat from the usual epileptiform symptoms, in that she went off into a trance rather than a convulsion; still the general type of the neurosis was practically the same. I merely thought that her ovaries and tubes seemed to be adherent;

they certainly were unusually tender to the touch, but I could hardly look upon this condition for the reflex neurosis. However, no improvement following the suggestions which I made to her family physician, she placed herself under my care eight months later. I removed her appendages, found them adherent but easily detachable, intensely congested, and the ovaries in an atrophic condition. Recovery, as usual, was uneventful, and the result of the operation, so far as the reflex neuroses were concerned, was perfect. She never had another attack, and subsequently, as I am informed, married and has remained entirely well.

I do not pretend to explain intelligently the successful results of these four operations; I can simply state facts, and also my conviction that I should feel exceedingly doubtful, in any future case which may present itself to me, as to the exact indications for oöphorectomy. The only rule that I can lay down for my future guidance would be the unquestionable relation between the functions of menstruation and ovulation and the epileptiform convulsions, and the dependence of the latter condition upon the former, and, further, upon the failure of any other form of treatment (counter-irritation, galvanism, massage, nervines, etc.) to effect a cure.

## THE BLENDED TOCCI BROTHERS AND THEIR HISTORICAL ANALOGUES.

 $\mathbf{BY}$ 

ROBERT P. HARRIS, A.M., M.D., Philadelphia.

(With illustration.)

Teratologically considered, or estimated according to its rarity as a living specimen, the Locana twins are to-day the most interesting of all the double monsters in the world. The term *blended* is to be preferred to *united*, because it better conveys to the mind the intimacy of attachment that exists in the peculiar type of double twin herein described, and which

of itself adds largely to the interest that is felt in such cases, and to the mystery that is bound up in their continued existence as growing and thinking beings.

When we see two living bodies that gradually blend into one as these do, beginning on a level with their sixth ribs, so



as to form to all outward appearances but one body below the double thorax, we are filled with a desire to understand the anatomical construction and arrangements by which the functions of digestion and excretion can be carried on for two beings in the same abdominal cavity without any apparent collision. We also note that these twins defecate by a com-

mon anus; have but one set of external genital organs; and, strangest of all, have each the control of movement over but one leg. This last is the most inconvenient of all of their structural points, for neither head can will to walk with both legs, and the two wills cannot effect a co-ordination of movement and balance of any practical value in progression. Looking back to the embryonic period, we are amazed that any form of human embryo can be made to go through a process of quasi-welding and still be developed with a measure of symmetry, not only in external appearance, but, in some cases, largely so within the body. To the perfection of this internal symmetry of construction is due the exceptional prolongation of life in a few subjects of the type under consideration.

Obstetrically considered, there is no reason why such subjects should not be oftener born alive, but for the fact that they almost universally belong to the abodes of poverty and are delivered by unskilled midwives. This form of monster being usually small, and the funis not in any special danger from pressure, skill should be able to accomplish a safe delivery, except where the defective organization of one or both twins causes death in utero during labor. About one-half of the cases reported have been born alive, and why they did not continue to live we must attribute to some anatomical abnormity, such as we shall show existed in one of the twins of the "Rita-Cristina" of 1829. We might readily design an ideal anatomy under which life could be prolonged into adult years, or even into old age; and it may be that such a structure did exist in the Scotch twins, who grew into early manhood, and has been repeated in their now living duplicate of Italy, whose vitality, shown by fourteen years of life, would indicate that their anatomical organization is sufficiently perfect to admit of a much longer existence.

Double monsters, whether attached, intimately blended, or of the parasitic type, being, as already stated, almost exclusively the children of poverty, are, when living, exhibited as a means of gain. Hence we have in our large cities abundant opportunities for examining, with more or less satisfaction, such as are exposed to view. Past experience should, however, teach the parents the dangers of early death from such

exposures, by cardiac, pulmonary, and intestinal lesions, cholera infantum having beet in a special cause of death to them in this country.

One point to 'you specially noted, in calculating the expectancy of life in al double monsters, is the comparative measure of health enjco yed by each twin. Such twins are, perhaps, never on an arrange equality of physical vigor—at least I have never seen our read of one—and death almost invariably occurs in the weaker subject first, as was the case with the well-known Hue angarian sisters and the Rita-Cristina, Judith and Rita beings the first to die. When the dangers of infancy have beden passed, it may be established as a rule that the nearer up the equality of good health in the twins the greater will be to their prospects of reaching mature life.

Then Tocci boys belong to the order of Xiphodidymi, becauseer

Then Tocci boys belong to the order of Xiphodidymi, becauseer of the union of their xiphoid cartilages, and to the class he Dicephalus tetrabrachius dipus, from their having two headws, four arms, and only two legs. The Siamese twins belong ged to the xiphodyms, but to an entirely different class; and the Marie-Rose of Canada (1878 to 1879) belonged to the class, but not to the order. Where a xiphodym has had a onble inner arm or an incomplete third leg, the internal anatomy may have been found to resemble that of a tetrabra-

chius dipus, but it cannot be classed as such.

The rarity of type in the Tocci twins, and the fact that no case like them has ever been exhibited in the cities of the United States, make them to be regarded by teratological students with unusual interest. Besides which we are to consider the fact that no analogue has attained their present age since the year 1518, and that only one of the type has grown to mature years in the past six centuries. Of other cases, one died at the end of a month and one in the ninth month.

As far as we are able to ascertain, there is no duplicate of the Tocci boys, of any age, now living in any part of the world. They were born in Locana, a town in northern Italy of five thousand inhabitants, on October 4th, 1877. Their mother, Maria Luigia, was a primipara of 19, and their father a workman of 32. These parents are healthy and are not of the swarthy Italian type; and the boys are fair-skinned, with the brown hair of their mother. They were born after an easy

labor of eight hours, under the care of a midwife, and were of small size.

The head of the right twin presented first and in an occipito-anterior position, and its expulsion was followed by that of the left head, then the body and legs, with one cord and placenta. The right boy was given the name of Giovanni Battista (John Baptist), and the left that of Giacomo (James). Their mother bore several other children at later periods.

The parents no doubt looked upon the coming of their twins as a windfall, for in four weeks after their birth they took them south to Turin for exhibition, and have lived by showing them at intervals ever since, visiting cities in Italy, France, Austria, Germany, Switzerland, England, and America. The babies were examined in Turin when a mont hold, and upon several occasions during their second month, by Professors Fubini and Mosso, and particularly by the latter, who complained, as every examiner has since, of the rest rictions that were placed upon them in conducting their inversingations.

When 30 days old the twins weighed 4,005 grammes ( $\S^{18}_{4}$  pounds avoirdupois), and at 62 days 5,345 grammes ( $11_{4}$  pounds), an increase of 3 pounds in 32 days, or  $1\frac{1}{2}$  ounces per diem. If we allow an average of half an ounce a day for the first month, and deduct it from the  $\S^{3}_{4}$  pounds, we have  $7\frac{3}{4}$  pounds as their probable weight at birth. When in Turin, and for more than a year subsequently, they were nursed by their mother and a strong, hale wet-nurse, to which the foundation of their health was no doubt largely due.

In November, 1878, when a little over a year old, they were upon exhibition in Lyons, and were there examined to better advantage, because of their age, by Drs. Colrat and Rebatel, who confirmed, except in a few points, the statements made in Turin. They discovered the existence of two sacra and two ossa coccygea.<sup>2</sup>

The boys, as we see them now, are in appearance about 12 years of age and of the form of a letter Y, the upper part being represented by their heads, shoulders, and chests, and

<sup>2</sup> Lyon Médical, t. xxix., 1878, October 20th, pp. 274-280.

<sup>&</sup>lt;sup>1</sup>Le Mouvement Médical, Paris, No. xviii., May 4th, 1878, pp. 168-170; No. xix., May 11th, 1878, pp. 181-182.

the lower by their common abdomen and lower extremities. In mind and character they are two individuals, but in body are so intimately blended that their interior anatomy is an interesting study, which is still only partly completed, and their abdominal viscera are either in duplicate or are held in common. To determine their associated anatomy we must rely partly upon the examinations that were made in Europe in their infancy, and partly upon the autopsies that were held upon the bodies of their dead analogues. The direct examination of the boys has determined the fact that they have each two lungs; that each has an independent heart, located in the left side of his chest; that each has his own stomach; and that they have two bladders, discharging through one urethra.

By the autopsies of several twins of the same form we are taught that, in all probability, each boy has his own spleen, pancreas, and small intestines. Each may have his own liver, or the two may have a duplex organ with two gall bladders, as was the case in the Padua boys of 1691 or the Rita-Cristina of 1829. There may be two kidneys to each twin, or only one; when there are two, the inner ones are usually small and rudimentary. The small intestines may empty into two colons, and these into one rectum, or there may be one common colon. The latter was the case in the Rita-Cristina, and both were noticed to hold their breath and strain in defecation. It is said that in their infancy the Tocci boys were more independent of each other in this act. If this is kept up, they are probably organized like the Padua boys, which appear to have been a very close analogue.

The existence of two stomachs is almost universal in the class and type of monsters we are considering. In the Tocci boys this was determined in infancy by noticing three points: first, one twin was hungry when the other refused to nurse; second, one would vomit while the other continued to nurse; third, both would nurse at the same time, with different degrees of appetite.

The independence of the two legs, now well established, was early discovered. When the boys were both nursing, and the sole of one foot was tickled, the twin on that side would show uneasiness and draw up the leg, while the other twin and leg remained passive, and vice versa. It was also noticed that

the pulse in either leg was synchronous only with the cardiac beat of the same side.

The duality of bludders was early suspected and soon believed to exist. This has been confirmed by the later habits of the boys. The Padua twins had the same anatomical provision, and, had they lived, would have found their "bone of contention" therein, as has been the case where other types of double monsters have had independent bladders and were disposed to empty them at different times. Quarrels thus begotten have been specially noted in old teratological reports. The external appearance of the Tocci boys is well shown in

The external appearance of the Tocci boys is well shown in our illustration. Giovanni is better formed, is more erect, and has a more intelligent expression than his brother, whose foot is deformed by a talipes equino-varus. United twins rarely bear a strong likeness to each other, and in this respect are quite in contrast to normal twins and triplets of the same sex. These boys were thought to resemble each other in early infancy, but are quite unlike now.

Resemblance has not been a feature in the many united twins that have been seen in this city, neither has it been noted in regard to any historical cases. As a rule they are unlike in physical conformation, in measure of health and strength, in tastes, and in mental characteristics. They are rarely amiable in disposition, and the males do not hesitate to use their fists in settling their worst disputes; in this the Locana twins are not an exception.

The tension upon the thoracic union required in giving room for the use of the inner arms causes the boys to be very high-chested. In the strained position in which the picture was taken the thoraces are drawn up and their abdomen flattened. Their sexual organs have a normal appearance and will probably develop late. Their testicles were regarded as large in infancy, but have grown slowly since. In manhood there may be some curious discoveries made in their sexual partnership.

The dorsal view of the Tocci twins must be studied from examinations made in their infancy and from pictures taken from analogues. They have two long spinal sulci extending down to the pelvic cleft, and their vertebral columns are each attached to a separate sacrum, beneath which are two converg-

ing coccyges, below and between which is the common anus. The sacra are united by bone, and over this symphysis are two little nates, with a cleft between; but there is no third leg nodule, as has been the case in some analogues. The inner shoulders are crowded together, as was markedly the case in the Rita-Cristina, and it is with difficulty that the inner arms can be brought into use; yet, strange to say, I found that the left boy was right-handed, even to the use of his pocket-handkerchief.

These boys are decidedly top-heavy, which is due to the defects of their form and the condition of the left leg and foot, to which is added a want of muscular co-ordination. For these reasons they cannot stand; unless held up by some one or supported by their arms or in a ring perambulator. Their legs are weak and thin for want of muscular training, and although, like their Scotch analogue to be hereafter mentioned, they might possibly stand under a mental concert of action, they cannot do so now, as Giacomo's foot will not rest flat upon the floor.

Because twins are born with two heads upon one pair of shoulders, the ancients pictured such subjects as athletic men and women capable of walking about as if of normal organization. Ambroise Paré represents such a woman and Fortunius Licetus a man. Had they been scientific teratologists they would have known that such strong matured beings were a physical impossibility in the human race.

Giovanni Tocci is the more intelligent boy of the two and has a natural talent for drawing, for which his brother has no taste. Both have an ear for music and have some knowledge of French and German. Great dissimilarity of brain power has been a marked feature in some united twins, and this is said to have been particularly noticeable in the Scotch brothers.

Analogues.—Italy has furnished in six centuries four duplex monsters of the Locana type, viz., in 1316, 1491, 1829, and 1877, all of which were born alive. One died soon after birth, one at the end of a month, one in the ninth month, and the fourth still lives at 14 years.

I. 1316. Peter and Paul, of Florence.—Their effigy was placed in a stairway of a Florentine hospital, with an inscrip-

tion by the poet Petrarch, who makes them say, "Veximus ambo decem bis totidemque dies." This has been translated by several experts in Latin, three of whom agree that it should read, "We have both lived ten and twice as many more days," *i.e.*, thirty days. Although these twins died in the day of Mundinus, the celebrated anatomist of Milan and Bologna, there is no record of there having been an autopsy. An engraving shows them to have had two heads, four arms, and two legs.<sup>1</sup>

II. 1490. The Scotch Brothers.—These were born near Glasgow and lived to be 28 years old, appearing when King James IV. was about 18 years old, and dying during the regency (1515-1524) of John, Duke of Albany. Our account is taken from the histories of Scotland by George Buchanan, William Drummond, James Aikman, and Robert Lindsay. Buchanan, who is usually quoted, says: "About this time (1490) a strange kind of monster was born in Scotland. In the lower part of the body it resembled a male child, differing nothing from the ordinary shape of the human body; but above the navel, the trunk and all the other members became double, and were distinct both in their use and appearance. The king caused it to be carefully brought up and educated, particularly in music, in which it wonderfully excelled. It learned different languages; and in their various inclinations the two bodies appeared to disagree between themselves, sometimes disputing, each preferring different objects, and sometimes consulting for the common pleasure of both." Buchanan was about 12 years old when the boys died. He wrote in his history: "There are many persons of undoubted veracity still alive who saw the prodigy."

Aikman says, in his edition of Buchanan, that the body of the monster "under the waist or middle varied nothing from the common shape and proportion of the bodies of other men, the members of both, for use and comeliness, being two, their faces looking one way. Sitting, they seemed two men to such who saw not the parts beneath; and *standing*, it could not be discerned to which of the two bulks above the thighs and legs did appertain."

Lindsay says: "They learned to sing, and to play on in
1 Fortunius Licetus, "De Monstris," 1665, page 77.

struments of music, singing two parts, treble and tenor." According to him, the languages they learned were Latin, French, Italian, Spanish, Dutch, Danish, and Irish.

Drummond dwells particularly upon their disposition to differ in opinion and to chide others "for disorders in their behavior and actions."

Saint-Hilaire classifies this case with the type of the Rita-Cristina as a xiphodym. But for the fact that the Scotch brothers could stand up they might be supposed to have belonged to another class where union begins below the ribs, as in the Marie-Rose (1878–1879), of St. Benoit, Canada, who when born were united at an angle of about 120°, and were brought to a right angle or less, as they grew older, under the effect of position. They could never have stood up. Death came in their seventeenth month through cholera infantum in Marie, the more robust, when at home, in July, 1879.

III. 1498. The Würtemberg Sisters.—These had also two heads, four arms, one abdomen, and two lower extremities.<sup>2</sup>

IV. 1657, November 27th. The Wasselinck Sisters, of Ardenberg, Eldershaus.—The left face had a double cyclopean eye in its centre, and above it a probosciform nose which the examiner, Dr. de Bills, took for a penis; and as there was a vulva between the legs, he gave it to the right twin, and called the other a male because of the proboscis. This twin monster had four arms and hands, two vertebral columns, and only one sacrum; the left foot was turned in. An autopsy showed that there were two stomachs, two sets of intestines, and two kidneys. The reporter was so possessed with the idea that the cyclopean twin was a male that he opened her head to see if the so-called penis was not connected with internal organs of generation.<sup>3</sup>

V. 1691, December Sth. The Padua Boys have already

<sup>&</sup>lt;sup>1</sup> References.—"Rerum Scoticarum Historia," auctore Georgio Buchanano, Amsterodami, 1643, page 444; edition of 1697, page 411; Glasgow edition, 1799, pages 95, 96; Aikman edition, 1829, vol. ii., pages 166, 167. "History of Scotland from 1423 to 1542," by William Drummond of Hautbornden, London, 1680, pages 202, 203. "History of Scotland from February 2d, 1436, to March, 1565," by Robert Lindsay of Pitscottie, third edition, 1778, pages 160, 161.

<sup>&</sup>quot;" De conceptu et generatione hominis," Jacob Rueff, 1554, page 49, plate. Fortunius Licetus, 1665, liber ii., page 81.

<sup>&</sup>lt;sup>3</sup> Licetus, lib. ii., pages 293 to 299.

been referred to, and are a very important analogue in our study of their Locana duplicate. They were born in the village of Ponte de Brenta, and only lived long enough to be baptized. Three days later they were examined under the knife and found to have, in addition to what has been already stated, two separately located hearts, four kidneys, four ureters to the two bladders, and one urethra for their discharge through the common penis.<sup>1</sup>

VI. 1701. The Gérard Brothers, of Beauvais, Canton Oise, Northern France.—These boys had two penes and no anus, but the second penis occupied the anal fossa. They were found on autopsy to have but one stomach, into which the two esophagi entered, one liver, one set of intestines, and one bladder. There were, however, two urethræ, one leading to each penis.<sup>2</sup>

VII. 1781. The Branfield Twin Boys, of London.—Dr. Bland, the obstetrician, described the monster, which was very perfect in its outer contour, and gave an excellent engraving of it. It had two heads, four arms and hands, two spinal columns, one sacrum, two legs and feet, one penis, and, internally, two stomachs, two sets of intestines, one rectum, and a single bladder. It is not stated whether they were delivered alive or dead.<sup>3</sup>

VIII. 1829, March 12th. The Rita-Cristina, of Sassari, Island of Sardinia.—The history of this remarkable blended twin has been better explained by text and plates than that of any xiphodym of the same class that has ever lived. As they died in Paris, the then centre of teratological study in Europe, on November 23d, 1829, at the age of 8 months and 11 days, we have been made perfectly familiar with their singular form and peculiar anatomy by those who were most interested in teratological studies. Their mother, Maria Teresa Parodi, had previously given birth to eight children and was at the age of 32 when the twins were born, after an assisted labor. It was soon noticed that Rita, on the right, was the more delicate of the two, and that the difference in favor of

<sup>&</sup>lt;sup>1</sup> Ephemerides, 1692, pages 72, 73.

<sup>&</sup>lt;sup>2</sup> "Jour. de savans," 1701, Juil, page 112. "Dictionnaire des Sciences Médicales, Paris, 1819, tome xxxiv., page 164.

<sup>&</sup>lt;sup>3</sup> Philosophical Transactions, London, 1781, vol. v., pages 362, 363.

Cristina was on the increase as they grew older. Rita was at times cyanotic, never had a healthy tint, and had much the smaller appetite of the two. Had it not been for their peculiar intestinal and vascular copartnership, Rita must have brought Cristina to the grave by her own death at a much earlier period. As it was, an exposure to cold, well borne by Cristina, gave Rita an attack of acute bronchitis which ended fatally in three days, and her healthy sister died immediately.

In Rita not only were the viscera transposed, but the vascular system was abnormal. There were two ascending venæ cavæ, each discharging into its respective auricle, and the interauricular septum was perforated in three places. The admixture of venous and arterial blood due to these abnormities was, in a measure, compensated for by the perfect circulation of Cristina and by the union of a large branch of her iliac artery in the pelvis with a corresponding but smaller vessel from Rita. The entrance of pure arterial blood thus afforded from Cristina during asthenic and cyanotic attacks in Rita accounted for her rapid and often inexplicable restorations. The defective appetite of this feeble sister was also compensated for by the fact that there was a common large intestine, into which the partly digested food of Cristina entered and helped to support her.

The Rita-Cristina had four arms and hands, two vertebral columns, and two sacra, with two perfect legs and feet. Within the body were four lungs; two hearts in an undivided pericardium; a double liver, with a central sulcus and two gall bladders; two stomachs, one transposed in position; two spleens; two pancreases; two uteri, one imperforate; and one bladder. The perfect uterus, with its appendages, was seated in its normal location behind the bladder, and connected, by its vagina, with the single vulva. The other, with its tubes and ovaries, lay in front of the bladder, the appendages being connected by nerves and blood vessels with the child of its corresponding side.

IX. 1851. Ramsbotham, in his "Obstetric Medicine and Surgery," gives an excellent illustration of a male xiphodym, but with no description or date of birth, taken from a specimen in the collection of the London Hospital (plate 78).

X. 1871. Prof. Rudolph Virchow has given a picture of

another, also a male, taken from a specimen in the collection of the Pathological Institute of Berlin. It bears a close resemblance to that in the London Hospital.

Prof. Virchow has given two accounts of "Die xiphodymen Brüder Tocci," written when they were 9 and nearly 14 years old, respectively, with a nude photo-engraving representing them at the former age. Prof. Virchow was, like every one else, thwarted by the parents or manager in his design to make a thorough examination of the twins, and was obliged to rely largely upon such as had been made in their infancy. The parents appear to be impressed with an idea that there is danger in a physical examination, whereby the hope of their gains might be destroyed; and the manager even opposes the answering of questions of a simple character put to the boys. Fortunately our analogical method of examination has supplied many points of inquiry.

It is not uncommon for one twin of a double monster to have its viscera transposed; and when there is but one abdomen between them the stomachs have a right and left position, with their pylori near each other. The transposed viscera will then belong to the right twin, and the symmetry of arrangement will give a better accommodation. As Nature is careful in her economy, the abdominal viscera will all be found of small size and in proportion to the amount of demand upon them, except in the cases where there is but one organ in common, as in a colon or bladder. An autopsy on one of these subjects is one of much interest, as the abnormal anatomy is a new revelation to the pathologist. The appetite of a Tocci twin must be decidedly less in its demand than that of a normal boy of the same age; and the amount he voids from a full bladder must also be in small quantity, as the pelvis has two to accommodate. The amount discharged in defecation will depend upon the measure of independence of the viscera. Where there is a single colon to both twins, the measure will probably differ but little from what is usual in a single child of the same age. It is a question whether there ever is, in monsters having but one abdomen, a set of

<sup>&</sup>lt;sup>1</sup> See Verhandlungen der Berliner Gesellsch. für Anthropol., Ethnol. und Urgeschichte, Jan., 1886, S. 47-50; and Zeitschrift für Ethnologie, Berlin, xxiii., S. 245.

intestines for each twin from the stomach to near the anus. Cases have been examined where they met at the rectum; but it is probable in all double monsters, as it is known to be the case in some, that the passage of feeal matter creates an equal desire to expel in each twin, even where the rectum bifurcates above the internal sphineter ani, as in pygodidymi.

The desire to urinate where there are two bladders, being dependent upon a state of repletion, is independent in each twin in large measure, and entirely so where there are two urethræ, as in several well-known female pygodidymi. This independence creates desires that are not synchronous; and these, being often an inconvenience to one twin, are a frequent cause of petty disputes, as was the case with the Hungarian sisters, although said to have been ordinarily amiable.

The question of predominance of sex in monsters is one very difficult to determine. In some forms of united twins the majority have certainly been females, and in very defective single subjects the same sex would appear to predominate. Förster was under the impression that in twins of the Tocci type the sexes were in equal number; but this has not been confirmed by my own researches, which give eight males to three females. United twins are never of different sexes, and all illustrations to the contrary are creations of the imagination, in which the old writers were fond of indulging.

329 SOUTH 12TH STREET, February, 1892.

## THE PREVENTIVE TREATMENT OF MASTITIS.2

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In view of my intention of making this a short and practical paper, I trust that I may be excused for generalizing and speaking positively my own conclusions, drawn from practice familiar to all.

<sup>1</sup> Arnaldo Sorbinus, Paris, 1570, gives two cases of tetrabrachius dipus, both males, that are earlier than any in my collection—one of 1283, and the other about 308; but we cannot be certain that either is a xiphodym. The illustrations are certainly unreliable in their character of union.

<sup>2</sup> Read before the Obstetrical Section, New York Academy of Medicine, January 28th, 1892.

The form of mastitis to which I refer is that most apt to occur in the functionally active gland, and the degree of inflammation that which results in incision with probable loss of function.

My observations are based upon seven hundred and fifteen cases occurring in my service as resident physician at the New York Infant Asylum, of which I had charge from the time of delivery for a period varying from three weeks to the natural end of lactation. Other nursing women, to the number of several hundred, also under observation for short periods, I shall not consider statistically, as I did not have charge of them from the first and most vulnerable time.

The periods at which mastitis is most apt to occur are following the first free flow of milk, from the fifth to the twentieth day, while the gland is adjusting itself to its function; second, when the child begins chewing and biting with its first teeth; and, lastly, the time of weaning, when the child's active tugging and biting at a breast which does not satisfy its wants, or the engorgement of glands which are accustomed to be regularly emptied, are both sources of danger.

If there is no trouble with the epithelium of the nipple or threatening engorgement of the breast, twelve days will cover the first and most critical period. Of the six hundred and seventy-five women who nursed out of my seven hundred and fifteen cases—seventy-five per cent of whom were primiparæ—twenty-five per cent either had sore nipples or a temporary engorgement giving cause for anxiety, and ten per cent actually had a pus formation in the breast of greater or less extent. With such cases the breast was rarely normal and performing its function without let or hindrance under four and five weeks. Therefore it has seemed to me that the statistics of lying-in hospitals which discharge their patients on or before the twelfth or fourteenth day are, in this matter, of limited value. For instance, on inquiring into the results of the breast treatment at Charity, the head nurse told me that they now had only one or two cases of mastitis in a year, but that when the women were transferred from the maternity ward on sitting up they were careless and neglected to carry on the treatment inaugurated, or took cold, and a number of cases had had mastitis. Precisely; I could

have told her that in a number of cases under my charge, in which the patient had neither taken cold nor neglected the breasts, the pathological changes inaugurated in the first ten days had culminated in mastitis at the close of the second or in the third or even fourth week. Moreover, I have been impressed that, however invariable the good results of certain methods pursued and lauded by others, no routine treatment has succeeded in my hands. There are differences in breasts, in the method of secretion and discharge, liability to engorgement and nervous irritability, and varying evil potentialities of nipples, and it appears to me that the recognition of these clinical types and their liabilities lessens the chances for chagrin.

The two points in prophylaxis are the limitation of injuries to the nipple, if possible the maintenance of the epithelium intact, and the prevention of stasis in the gland of pro-

ducts already secreted.

The first feature in the care of the nipple is cleanliness, and, second, the regulation of the flow of milk so that an undue amount of suction is not requisite to the proper emptying of the breast while the nipple is tender and as yet unaccustomed to suckling. The necessary degree of cleanliness can be had with safety to mother and child by the free use of borax water, washing the child's mouth and the nipple before each nursing. Limitation of the frequency of suckling is effected by the binder, the means which also best prevents engorgement. For the adaptation of the nipple to its function, the so-called hardening, astringent preparations seemed to me irrational, and the very limited trial given them was unsatisfactory. The natural means of rendering the skin pliable and epithelium cohesive, of preventing cracking and chapping, is by oil, and from this, when faithfully applied, results have been most satisfactory. When the nipple was left without any treatment save washing, five out of six women had sore nipples. With my present method-although it is not carried out faithfully, owing to the indifference of hospital patients to anything systematic devised for their good, except sleep and meals—two out of six have sore nipples, and I believe this number could be much reduced. I tried a number of oily combinations, but, upon the suggestion of Dr. J. C.

Thomas, adopted the one which I have since continued to use as by far the most successful. This ointment—

| R Tincture benzoini compositegtt. xv |  |
|--------------------------------------|--|
| Olei olivæ                           |  |
| Lanoline 3 vi.                       |  |
| M.                                   |  |

—is applied to the nipple after each nursing for the first ten days or two weeks; and where it was really so applied and suckling was not excessive, I have not yet seen a case of sore nipples. Even if the nipples are tender and slightly fissured, they heal better under this treatment than under anything else I have used. I begin the application of the lanoline with the onset of labor, four times daily till lactation is established; and with a set of cases in which a preparatory treatment of the same was used for ten to fourteen days before labor, the results were even better.

But granting that extensive crosion has once taken place, I have found nothing so effectual as fortitude. The development of a strong, elastic epithelium on a nipple which has already proved unequal to its function is not accomplished by a few days' rest. Occasionally, for the sake of the mother, I give it, applying to the nipple nitrate of silver or equal parts of tincture benzoin and glycerin, as may be indicated, bandaging the breasts to restrain the flow of milk, and emptying once daily by hand; but I expect the fissure or erosion to reappear in a measure on the resumption of nursing, and was never disappointed but once.

Of the legion of powders, salves, washes which I have tried, I cling to hamamelis, about one part of the distilled extract in four of water, kept evaporating from a thin rag covering the nipple, where the skin is thin and florid, the areola hot and red, and the exquisitely tender nipple presenting a roughened surface of thin, brownish crusts. For an extensively eroded, weeping surface with irregular edges, equal parts of tannic and boracic acid, applied after nursing, will sometimes rapidly relieve pain and promote healing. Of shields I cannot speak with enthusiasm, though occasionally with tender nipples they serve as excellent persuaders to the mother to undertake the suckling which is essential to the

development of the nipple; the tendency is to keep up their use too long. Similarly, cocaine applied to an erosion and washed off before nursing will sometimes render nursing pain-less which could not otherwise be done without agony. A paste of bismuth and mucilage is sometimes soothing and protective, and acts well on such a nipple as I have described as suited to hamamelis; and occasionally a mixture of glycerin and the compound tincture of benzoin will act much better upon erosions than the tannin powder. Sore nipples are frequently associated with a scant supply of milk, the child remaining unsatisfied after nursing, and the mother in consequence keeping the nipple in his mouth till it is sore; or secondarily the milk becomes scant from the pain of nursing. Recently, in such most obstinate cases, I have attempted to increase the flow of milk. Nutrolactis I have found very effectual to this end, and three times have seen the rapid healing of long-continued sore nipples shortly after it was begun. When reduced to the last extremity, the milk becoming small in amount and suckling intolerable, or the nipple and areola red and sensitive. I put the parts at rest with a roller bandage, as mentioned above, sometimes with final success, the resumption of suckling; but often in such cases, if one does not dry up the milk voluntarily, it gradually ceases to flow or proves unfit for the child's needs. I have frequently noted the coincidence of a poorly vitalized epithelium of the nipple and a scant and poor secretion of the epithelial structures within the gland, and am now less disposed to urge continued nursing on very obstinate sore nipples than formerly, as I have often found the result to the child not worth the battle.

To turn now to the second point in prophylaxis—the prevention of engorgement of the breasts-in forty of the cases quoted the milk was dried up without an attempt to nurse, and without any difficulty save in one patient who went away too soon and took off the pressure of the bandage: she had mastitis after leaving me.

Two plans chiefly were tried for drying up the milk. In one the breasts were compressed with a straight or, if the pressure was insufficient, a roller bandage as soon as the milk came in, and the milk rubbed out once daily with the hand anointed with camphorated oil; purgatives used in a desul-

tory fashion. While milk persisted in the breasts for from two to four weeks, it was practically gone by the eighth to the twelfth day. The other and far preferable method was to forestall the inflowing of milk by the application of the straight binder as soon as the patient awoke from the first sound sleep following labor, and the derivation from the breasts by the administration of salts—Epsom—before the milk came, it might be twenty-four or thirty-six hours after labor. It was the intention to give salts to the point of mild purgation, two or three stools in twenty-four hours; but pushed beyond three heaping teaspoonfuls daily they were apt to act unduly—not in the first forty-eight hours' rush of milk, when there might be no stool at all, but a later cumulative effect. All danger of engorgement was generally over by the fourth day, and there would be very little flow of milk after the sixth. I have repeatedly noticed the milk draining through the single thickness of the straight binder, but rarely through the roller; but—and this is the point—it very rarely flowed spontaneously from any breast which had been allowed to become engorged; they had to be emptied by suction or expression, the contractile power of the ducts seeming lost with overdistention. In a few cases treated by the latter method, the bowels were affected simultaneously with the breasts, and, not caring to push purgation, I had the distended breasts emptied once or twice by hand, to the great relief of the patient, but neither so long nor so frequent rubbing was needed as with the other method.

As an example of what may be done by derivation, I may mention one case to whom on the sixth day I began giving Epsom salts for the purgative action. She took half an ounce every two hours through the night till she had swallowed six ounces, and morning and investigation came. The bowels had not and did not move, but the breasts, which the day before had been very full, were flat and limp as a rag, and she never after had a free flow of milk. With the full dose of potassium iodide, thirty grains, recommended by Dr. Routh, I have also three times gotten a rapidly absorptive effect, once with the purpura, swelling of thyroid, and other classical symptoms of poisoning; with fifteen-grain doses repeated I got no effects at all.

In drying up the milk after lactation was well established, if the breast were of the kind from which the milk flowed easily, it went more quickly and painlessly to apply the straight bandage and purge freely, and not to rub out at all, as the breast only rapidly filled again. But if the gland became very hard and knotty, nodular masses forming in its tissue, it gave great relief to rub out the milk; and if I did not, I had three times, two or three days later, to rub out

pus, with difficulty to the patient and myself.

With the remaining six hundred and seventy-five patients who suckled, I regret that I have never had a sufficient nursing force to give faithful trial to the jacket used at Maternity Hospital, which has reason as well as testimony in its favor. Of course the essential feature of this method is the forestalling of any serious engorgement and the regulation of suckling so that the nipple becomes accustomed to suction without having an undue amount of it to perform in the first few days. But it is a method requiring much attention from the nurse, and, my nurses being few in number, my attempts at it were futile and disastrous. As a substitute I have found quite serviceable the application of a roller bandage as a figure of eight, leaving the nipples free; this needs to be applied only once in twenty-four, forty-eight, or even sixty hours. It gives an even support to the breast, prevents overdistention, and limits the necessity for nursing, the milk frequently draining away spontaneously. The disadvantages, as compared with the binder, are the greater difficulty of the first application; the uncompressed nipple and areola may become edematous; and, owing to the greater pressure exerted, it is inadvisable to put it on before the first rush of milk, as it may check the flow more than is good for mother or child. Still, for the cases which must be left in the hands of an unskilled nurse or none, it affords a timely and reliable aid. Certainly I can say that, coupled with the judicious use of salts and the ice bag, I have used it in my last one hundred and forty-five cases with less anxiety as to results than I had formerly in fifty.

But if precautions against sore nipples and milk stasis have failed, and inflammation actually threatens a functionally active gland, what are the indications to be met!

- 1. Lessening blood supply.
- 2. Securing immobility and rest from functional activity.
- 3. Freeing from the reflex irritation of painful suckling.
- 4. Starting currents of absorption in other directions.
- 5. Relieving tension due to accumulation of milk, and, if possible, sweeping out the products of inflammation through the nipple.

The means of meeting these are, pressure, cold or heat, derivation, expression, suspension of lactation; and I believe that, with a proper understanding of the end sought and the means to be employed, and of the liabilities of the type of breast treated, incision can be avoided in, I might almost say, all cases of simple mastitis. It may be necessary to surrender nursing the present child upon one breast, but it is not crippled for future lactation, nor does it often become necessary to dry up both breasts in order to save the one—a condition very likely to occur spontaneously, if not induced, in cases which have gone on to incision.

Pressure, which I deem most important as meeting the first four indications, I have found best applied by the roller bandage. I use a wide three- to five-inch bandage, taking the first turns under the affected breast and across the opposite shoulder, by which the breast is raised and slipping prevented; the bulk of the bandage is applied as a figure of eight about the chest, with a number of turns straight across the upper part of the breast from arm to arm, the part adjacent to the axilla being very apt otherwise to slip and escape pressure. Bandages put on for artistic effect I have frequently to take down as too tight. The points for the comfort of the patient are to pad shoulder, axilla, and sternum well with cotton, and not to get the first turns too tight, for they will cut, but to rely for pressure on the quantity used and on the increasing tightness of the turns. The degree of pressure is of course to be regulated by the end sought. For ordinary cases I have found it sufficient to apply the bandage comfortably snug. If it is intended to promote absorption by this means it must be applied as tight as can be borne. The jacket has proved insufficient to me if serious inflammation impended; for the sharp but evanescent threatenings in which there was

a quick rise of temperature, subsiding rapidly under the ice bag, it answered very well.

Cold, diminishing congestion and reflex irritation, I regard as next in usefulness and frequency of applicability to pressure. I have applied it by means of the ordinary small ice bag laid over the sensitive spot, which was first covered with a cloth—generally the bandage, as I often combined cold and pressure. The ice was kept on steadily for from twelve to thirty-six hours, the indication for removal being the disappearance of spontaneous pain and fall of temperature to normal, then intermittently for half the time till there was no further sensitiveness on pressure and milk was again flowing freely. In my last one hundred and forty-five cases, in which I have had no mastitis, and loss of function in only one-she, by the way, is resuming nursing-I have resorted to cold and pressure early, and have had fewer anxious cases than ever before. A common history has been a sore nipple, after some days a chill, rise of temperature, pain in one breast, with circumscribed red, sensitive, nodular spot, and with or without engorgement. In a few cases the application of the ice only, with limitation of the frequency of suckling to the least that would empty the breasts, has controlled pain and temperature within twenty-four hours, and all danger of inflammation would be gone in a few days. In the majority of cases, however, there was some engorgement or it was necessary to restrain the flow of milk in order to spare the nipple, and pressure and cold were applied simultaneously. The inflowing milk is so much diminished by these means that I had no hesitation in leaving the breast twenty-four hours, when I would remove the accumulated milk by nursing, if it could be borne, or by gentle expression. I have not yet had the courage of a growing conviction that the breast might safely be left until milk began to flow spontaneously through the bandage, but several times I have seen this: that when the inflammatory action had ceased, the milk, which before had flowed scantily and hardly upon nursing or expression, would flow through the binder, whereupon I was safe in taking off the pressure and resuming nursing.

Cold and pressure, I believe, if applied early, will abort an active inflammation, if the nipple is not exposed to fresh

irritation and infection. There is another kind of inflammation, insidious in its onset, occurring frequently with a very slight continued elevation of temperature, or perhaps a slight rise and speedy fall, but widespread and disastrous in its result. For this passive type I have not, since I have been using ice, had any opportunity for trial. But one could hardly hope for a good result. The tissues are already depressed, and extreme heat and pressure would seem more appropriate. I have applied heat only as hot belladonna compresses under a roller bandage, often with most satisfactory result, though I could not get heat enough to satisfy myself and was in doubt as to the share played by the belladonna. For those sluggish conditions where the breast remains engorged with doughy masses in its substance which will neither go forward nor backward, I have found the heat and pressure the only satisfactory treatment.1

Another and common type of passive inflammation is that occurring in those rather small, flat glands which secrete only a scant or moderate amount of milk, with nipples which become sore early and extensively and persistently—a scaling of the epithelium which may even extend to the areola. I have burnt my fingers with these so often, persisting in nursing when the threatening inflammation was past, only to light it up again, that with such glands and nipples I am now disposed to surrender nursing early and at discretion. It is characteristic of this low grade of inflammation, here as elsewhere, when temperature, the absence of pus as shown by the hypodermic, and of local spontaneous pain, all indicate a return of the parts to normal, to light up again, and with uncontrollable violence, upon resuming the active function of the gland.

As derivatives I have tried salts and iodide of potash, but without good result; indeed, I am not sure that the end sought is desirable in a seriously threatened breast. In such a one milk does not flow to any extent, there is stasis of what is already there, there is congestion; but the normal secretory process is changing to a pathological secretion into

<sup>&</sup>lt;sup>1</sup> Dr. C. S. Cole has suggested to me the application of heat by a large sponge wrung out of very hot water—certainly more commendable than anything I have tried.

the ducts or exudation into the interstitial spaces. The majority of cases fortunately belong to the former class, and in them it seems desirable that a free flow of the normal product should sweep out the pathological. The restraint of the flow of milk by pressure can be removed at will, while a derivative may begin and continue to act later than you wish. Clinically I have certainly found that the most difficult and disastrous cases were those in which the milk ceased to flow.

To belladonna I have given fair trial, and find that it diminishes congestion and pain, frequently controlling the latter as markedly as the ice bag; it seems, moreover, better adapted than cold to a passive congestion. I have applied it as the plaster and the hot compress under a bandage, preferring the latter method, by which you also get the derivative action of a compress upon the skin. Frequently, on removing such a compress twenty-four hours after its application to an engorged breast with circumscribed sensitive red area, the breast would look shrunken, the skin lying in folds, the sensitiveness having disappeared. Generally there was a superficial dusky redness, which faded in a few minutes. If there were lancinating pains through a circumscribed red and sensitive spot, with elevation of temperature, I used the compress; if painful, nodular masses, without fever or local redness, the plaster. The pain and sensitiveness are quickly relieved, and the mass frequently but slowly absorbed. If there were no redness and localized pain, only an even fulness and aching from overdistention, compresses of the phytolacca decandra similarly applied often reduced the engorgement very rapidly.

We come now to the last means mentioned, the much-reprehended but very useful manual expression. I have given it thorough trial, firstly because, properly applied, it gave results I did not know how otherwise to obtain; and, secondly, searching for legitimate information, I wished to define the sphere of its usefulness. It goes without saying that forcible handling of the breast by a person ignorant of the anatomy and the end sought is reprehensible. In the cases to which I refer, my assistant, whom I directed, or I myself did the rubbing. I have the patient lie down, anoint the breast with oil, and, laying the palms of the hand

opposite each other on the periphery of the breast, bring them to the centre with an increasing pressure, expelling the milk from the nipple by bringing the whole length of the forefinger up against the areola with a quick motion similar to the sudden pressure after drawing used by milkmaids. Generally after emptying a breast it was put at rest by the application of a roller bandage, and left undisturbed till the sense of tension became painful—usually twenty-four hours. The breast can be so emptied without touching or giving pain to the sorest nipple. I rub out first that which lies nearest the nipple and comes most readily, afterwards the nodular masses of the engorged acini, and last the inflamed portion, when tension is diminished and it is comparatively painless. By the use of expression in a large number of threatening cases I learned that the great, the very great majority are a parenchymatous inflammation, and that a common history is that a case which under pressure and cold, pressure and belladonna, perhaps spontaneously, might appear aborted, in reality runs the course of inflammation to the formation of pus and then resolves. Again and again I have seen chill, rise of temperature, all the local signs of impending mastitis—as engorgement with circumscribed red, painful, nodular area gradually subside, and on the second, third, or even fourth day pus in considerable quantity would be expressed through the nipple. Quite frequently the temperature sank to normal before the removal of the pus (though local tenderness was never quite gone till its discharge), showing that the active inflammatory process was at an end, that absorption was not taking place, and the pus only needed a channel of egress. If that can be by the one naturally provided, why not take it? The formation of pus was always associated with great diminution in the flow of milk, and in a threatened breast where this occurs suddenly I have learned to accept it as a sure sign of pus coming. In over fifty cases I have thus expressed pus—not caseous milk, but distinct greenish pus—from the breast, and, watching the course of the majority and simpler cases, I am now convinced that where the condition of the nipple rendered nursing possible, they would have come to a successful issue under the use of pressure and cold only; and the pus—well, the pus would have been nursed out or absorbed, neither of them killing matters. But if ice bags are not to hand, and suckling impossible, it is well to know that there is another resource.

As exemplifying what may be done by expression in the

simpler cases, I may quote:

Case I.—Primipara; very sore nipples; twelve days delivered; sudden chill; temperature 104°. Right breast enormously distended, and with sensitive red area near axilla, under which was a clearly defined nodular mass, the seat of constant stabbing pains. Absolutely refused to nurse or to let my hands rest on the breast till I had given a few whiffs of chloroform. I rubbed out a large quantity of milk. At the last, when the milk was nearly gone, a little creamy, greenish pus, probably two drachms, came slowly oozing out. Long before the end the rubbing had ceased to be painful; pressing out the pus was slightly so. Bandaged with roller. In two hours the temperature was 99°—I was prompted to take it by her having a second nervous chill—and it did not rise again. To give rest to the nipple I kept the breast bandaged three days, rubbing out once daily. She then resumed nursing.

Ordinarily, though the first rubbing of an engorged breast was painful, there was a marked sense of relief as soon as the tension was sufficiently diminished for milk to flow freely. And there are other conditions, best shown by cases, which expression seems better to remedy than any other means.

Case II.—Primipara; sore nipples; fourteen days delivered; chill; temperature 103.5°. Breasts moderately distended, sensitive nodules leading out to axilla. No redness, but severe pain in whole breast. Applied jacket and ice bag. More chills, which continued irregularly as long as the ice was kept on; then removed ice and rubbed out breast, which relieved pain entirely; bandaged and left to rest for five days. The temperature ranged from 99° + to 101°. No milk drained from the breast, and the child (as is very common) refused to nurse, so that the bandage and daily rubbing were continued. At the end of this time a large quantity of pus came through the nipple, temperature fell, milk returned, and the child again nursed.

Case III .- Six months delivered, and had been threatened

with mastitis in the lying-in period, which was dispersed by rubbing. Went as wet-nurse, and at six months came back with history that she had taken cold and three days before had had a chill, with pain in the breast and all signs of inflammation. Indeed, it had gone so far that the physician in charge of the case had proposed incision the next day; but she came back to the Asylum, preferring to take the risk of the rubbing. Temperature was then 102°, and, according to the canons, the breast was ready apparently for incision. It was rubbed, however, and bandaged twice daily for several days, the first rubbing giving great relief and being followed by fall of temperature. In a week she had resumed nursing.

Case IV.—Nearly two months delivered, and the milk dried up a month. Went out in the afternoon thinly clad, was chilled, and during the night had a rigor, followed by lancinating pain in left breast, which was red about the nipple, with a sensitive mass underneath in the substance of the gland. Temperature 102°. Put on ice bags and gave salts. In twenty-four hours temperature was 101° and pains diminished, but sensitive mass as before. Another twenty-four hours of ice bag found matters the same, save a little more spontaneous pain. In view of the certainty of pus within the gland, which must come out, I experimented with expression. The rubbing was exquisitely painful, but brought through the nipple a large quantity of thick, greenish pus, fully two ounces. Temperature fell after first rubbing, became normal after second, which was much less painful than the first; the third emptied the breast and there was no further trouble.

Now that I am no longer studying what may be done by expression, I would not select it as a means in many cases where I have formerly found it useful, because it will have only patient and intelligent fingers; but there are some indications which it meets better than anything I know—the relief of pain where the breast is overdistended and cannot be emptied naturally; diminution of tension and excitement where cold cannot be borne; the discharge of pus from the breast when it is situate in the acini and will flow through the ducts. The contra-indication is the possibility, in a threatening interstitial inflammation, of still further damaging the tissues by manipulation. The caution associate with

this is, of course, not to persist in the rubbing too long; let the temperature guide, and if with the expression of the products of the breast you do not get diminution of pain and temperature, you are not working good but evil.

Of course there is the alternative of removing pus in this manner by free incision; but this is so apt to result in immediate loss of function and crippling of the gland for future lactation that it seems very desirable to me to avoid it, if possible, even aside from the pronounced antipathy of patients to the measure.

My practice has been in an institution of which the sine qua non is that all women who remain should nurse, and in pursuit of this object I have had cases of mastitis which I know could have been avoided. Of the ten cases of mastitis there were eight which might have been spared incision, if, at one time after the inception of inflammatory processes, I had definitely abandoned the attempt to nurse. With four out of the ten I should never have tried it after the first engorgement showed the condition of the ducts, for they had been so crippled by former incisions that the milk would not flow freely. In five such cases I did dry up the milk, and I have seen none in which lactation was absolutely normal and free from anxiety. We expect with an improved surgery to improve on the old annals of suppurative mastitis, but even so it seems to me very desirable to avoid it, even at the expense, perhaps unnecessary, of function; and this is the point where knowledge of patients is as necessary as knowledge of the means to be employed—to know just how far you may dare attempt the preservation of function, and when it is time to accept defeat and dry up the milk as speedily as possible.

#### A PODENCEPHALOUS MONSTER.

BY

HELEN W. BISSELL, M.D., St. Paul, Minn.

(With plate and one illustration)

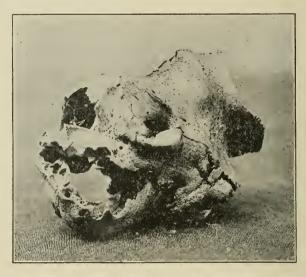
Early in July, 1891, I was requested by Dr. Mosse, of Rochester, Minn., to take charge of a feeble-minded girl who

was six months pregnant with an illegitimate child. She was one of twins, and her parents, though married, were uncle and niece.

I saw her on July 9th, when the uterus was level with the umbilious, and the indications pointed to a confinement in September.

On examining her on July 30th there was nothing to indicate an abnormal condition beyond the fact that there was lack of motion.

Within a few days prior to August 19th she increased



SKULL OF PODENCEPHALOUS MONSTER.

The opening at the centre of the sagittal suture was formed by the forcing back of the edges of the parietal bones. All the cranial bones have grown inward and are firmly fused together by bony union.

rapidly in size, the uterus becoming as large as one at full term. On palpation there was simply a feeling of elastic resistance, and no fetal heart could be found. By the vagina only some small parts were felt, that floated away at the slightest touch. A diagnosis of transverse position with a large amount of liquor amnii was made.

Labor began about 5 A.M. August 3d and progressed favorably, though the pains were feeble owing to overdistention of the uterus. Vaginal examination showed the small parts





AMER. JOURN. OF OBSTETRICS

AND

DISEASES OF WOMEN AND CHILDREN.

APRIL, 1892.



A PODENCEPHALOUS MONSTER.-BISSELL.



in a state of incessant tremulous motion. Neither placental nor heart sounds could be discovered.

At 2:15 p.m. the os was fully dilated, and it was decided to rupture the membranes and perform version, if necessary. The rush of waters, of which two and one-half gallons were collected and measured, brought down the head, and labor was completed in a few moments. The girl made an uneventful recovery.

The fetus weighed three and one-quarter pounds, and the first impression made on touching it was that every joint was anchylosed. The skin was smooth and perfect. On the head there was a little light-colored, woolly hair. The most striking deformity appeared in the head, which, with its distorted cranium, protruding eyes, and pendulous occipital mass, seemed hardly human.

A very careful dissection made by Dr. John H. Brimhall showed the following peculiarities: The parietal bones were poorly developed, and on the right side the superior and inferior maxille, together with the malar bone, were fused into one solid mass. The orbits were so shallow that the eves were forced beyond the short eyelids on to the cheeks. The clavicles were absent, their place being supplied by slight tendinous bands. There was a reversal of the articular surfaces of the femur at the right knee; the ankles had free lateral but almost no normal movement. The brain substance was absent, the place being taken by what resembled a disintegrated blood clot enclosed in membranes. The spinal cord had nothing noticeable about it. Each lung had two lobes. The external genitals were those of a five-months female fetus, while the internal organs were those of a male. The other organs were normal.

I sent the skull to Dr. Barton Cooke Hirst, who, after examining it thoroughly, sent me the following report: "There was evidently an early hydrocephalus, which led to a destruction of the ventricles, atrophy of the brain, and protrusion of the skull contents through the sagittal suture behind the greater fontanel. The brain cavity being empty, the cranial bones collapsed, as it were, sinking to a central point as they grew. It is, therefore, what Geoffrey Saint-Hilaire calls podencephalous."

## OPERATIVE PROCEDURES IN UTERINE DISPLACEMENTS.1

BY

O. E. HERRICK, M.D., Grand Rapids, Mich.

For some years the gynecological surgeon has seemed to find his field for operation almost entirely within the peritoneal cavity. But for a year or two past operative attention has seemed to be returning to that rich field glimpses of which were given us by those grand old pioneers in gynecological surgery, Sims, Peaslee, Thomas, and Emmet. All modern forms of plastic operation within the female pelvic cavity, no matter by whom devised, found their keynote in either their writings or teachings. In operations for uterine displacement it would seem necessary to follow in Nature's footprints as closely as possible, and to apply stays and fastenings at the points where Nature applied hers. If Nature had intended to hang the uterus in place and hold it there by a ligament attached to the top of the fundus and anterior abdominal wall at a point just below the umbilicus, surely one would have been placed there. If the round ligaments had been intended to either hold the uterus upward or forward, instead of simply steadying the body of that organ held in place by other and more direct ligaments, then their ends would have been attached to the anterior abdominal wall at or above the umbilicus instead of coming downward to be fastened into the loose tissue of the labia majora. Good surgery must also be good mechanics, and either the architecture of the female pelvis is wrong or Alexander's operation must be bad mechanics. Again, when we notice that all the uterine ligaments intended as stays are without muscular fibre, one must conclude that neither contraction nor relaxation was intended. Besides, each has a fixed point of attachment—the round ligament alone being the exception, having no fixed point of attachment, and having in its composition muscular fibre; if that was not the case, the ligament would surely be

<sup>&</sup>lt;sup>1</sup> Read before the New York State Medical Society, February 2d, 1892.

broken during pregnancy, for at that time it elongates at least twice its normal length, and contracts again when pregnancy is concluded. When this ligament has been shortened by surgical means, it sooner or later follows its physiological office and elongates again just as it does during pregnancy. Singer very truthfully says that a common cause of retroversion and retroflexion is relaxation of the sacro-uterine

Singer very truthfully says that a common cause of retroversion and retroflexion is relaxation of the sacro-uterine ligaments, and that, instead of seeking to cure such displacements by fixing the fundus forward, we would do better to imitate the action of a pessary by drawing the cervix backward—a truth which the writer has time and time again asserted in articles published in medical journals for more than ten years. Sänger further says: "Freund shortened the sacro-uterine ligaments by suturing them through the posterior fornix—a method which Byford practised independently—while Herrick and Hunter denuded opposing surfaces on the posterior lip of the cervix." He then goes on to describe a method of his own, which is a combination of the two methods he mentions as done by Freund, Byford, Herrick, and Hunter. And that method is almost word for word a description by the writer of an operation done by him for nearly two years, and published in The American Journal of Observing Strenger for March, 1891, which he must have known, else how did he know of the writer's method as described?

This plan of operation is as follows: "The operator palpates the posterior surface of the uterus through both the rectum and the vaginal fornix, and locates the sacro-uterine ligaments. A large, curved surgical needle threaded with a long, stout silk suture is now passed to the right into the posterior lip of the cervix, and is carried upward and backward an inch higher; is swept around and brought out through the posterior vaginal wall at a point half an inch lower than its point of entrance in the cervix. The ends of the ligature are secured, while a second is passed in a similar manner to the left. Each ligature includes the posterior wall of cervix at the level of the attachment of the sacro-uterine ligaments, a portion of the upper surface of the ligament, and the peritoneum of the cul-de-sac.

"The anatomical result of the operation is as follows: The cervix is carried upward and backward, and the anterior and

posterior folds of Douglas' ponch are brought in contact, and the sacro-uterine ligaments are drawn downward in the shape of a V, so as to be considerably shortened."

This quotation is from Sänger's article, written October 31st, 1891. I now quote from my own article, published in The American Journal of Obstetrics for March, 1891:

"The whole of the posterior uterine neck and Douglas' culde-sac may be denuded; or the upper part of the cul-de-sac may be left and the denudation made a little lower down, so as to take up some of the slack in the posterior vaginal wall-The first suture should be introduced through the membrane of the cervix, with a curved needle of as great length as can be used through the speculum; then it should be carried high up through the wall of the cul-de-sac and as close to the uterus as possible, when the operator will distinctly feel the needle pierce the utero-sacral ligament; then he should carry the needle well back and as close to the rectum as possible, when he will again feel the needle as it is inserted into the ligament; after which it should be carried back and out through the cul-de-sac close to the edge of the denudation, when the silver wire can be drawn just moderately tight and twisted. The operator will at once have the gratification of seeing the uterine neck drawn well upward and backward into its proper place. After the first deep suture is taken, then the other superficial sutures may be introduced to unite the cervix and cul-de-sac. Before the deep suture is taken the operator should pass the finger into the rectum, and, as the uterus is thrown forward with the sound, he can distinctly feel the utero-sacral ligament as it pulls upon the wall of the rectum to which it is attached. While introducing the deep suture he should keep the finger in the rectum as a guide to avoid puncturing it. As will be readily seen, when the deep suture has been passed the utero-sacral ligament is folded upon itself, and union takes place between these folds and also to the wall of the cul-de sac, which shortens the ligament more than one-half and makes a firm point of support to the cervix, as will be seen after union by the deep dimple at point of union of ligament and vaginal wall. In two cases I passed two deep sutures, one on each side—that is, after passing the one on the right side, the patient was turned over and another passed in

the same way through the left side. But the uterus seems to stay just as well after shortening only one ligament; whether in time it will prove better to have shortened both I cannot now say."

Since that article was published I have operated on twenty-three cases and in all passed two deep sutures. Every case has been a complete success so far. Dr. Mundé, in an article published in the November number of The American Journal of Obstetrics upon this subject, says: "Anteversion of the uterus by attaching the cervix to the posterior vaginal vault is technically the most simple and least dangerous method, and theoretically would appear to be quite feasible and effective." But he thinks it has not stood the test of time, because of the danger of the parts pulling away after a time. The fact is, it has only been done by a few operators, and in their hands a fair proportion of cases have held well. I do not think Dr. Mundé wrote his article after the combination of the two methods had been described, or he would have mentioned that plan of operation, for I am sure he would be incapable of unfairness.

ON A CERTAIN CAUSE OF STERILITY, AND ITS CURE.1

 $\mathbf{BY}$ 

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In spite of the vast numbers of salpingo-oöphorectomies done yearly—many of them, it is to be feared, unnecessarily—in spite of the increasing prevalence of criminal abortion, and in spite of the Malthusian practices which are invading all countries of the world, the Rachel's cry, "Give me children or I die," continues to go up from the hearts of a host of women—so-called sterile.

Now, as sterility in woman may be not only a source of family sorrow and discord, but, in its far-reaching effects, a national calamity, the subject is one which should occupy no

<sup>&</sup>lt;sup>1</sup> Read by invitation before the Bay County (Mich.) Medical Society.

little attention and time of the medical profession, for whatever medical science can suggest or do to relieve the condition results in benefit to the individual and to the state.

Barrenness has been made a cause of action for divorce, and I have recently heard of a case where separation was desired by the husband because it was thought that the wife used checks, and the husband desired children. I have been much interested in looking up the legal aspects of this condition. According to Lushington, the law recognizes as the principal ends of matrimony "a lawful indulgence of the passions to prevent licentionsness, and the procreation of children, according to the evident design of Divine Providence." The former object appears to be of greater importance than the latter, since mere barrenness is not taken into account, the essential being an absence of congenital or acquired (before marriage) defect which will prevent the perfect consummation of marriage. An existing malformation which is capable of cure without too great danger to the individual offers no cause for divorce. "Mere incapability of conception," says Judge Lushington, "is not sufficient ground whereon to found a decree of nullity, and alone so clearly insufficient that it would be a waste of time to discuss an admitted point."

The question of incapability of conception could be settled by a court of law only in respect to anatomical abnormalities, such as absence of vagina, uterus, or ovaries, etc.; but relative or absolute infecundity within the child-bearing age could not be proven by any means at present within the knowledge of jurist or physician. The law, therefore, which takes cognizance only of ascertainable facts, is evidently both correct and just. So-called relative sterility—omitting from discussion Malthusianism—is of such frequent occurrence that to grant a man a decree of divorce from a woman possessing all the attributes of her sex, simply because she has not conceived and borne a living child or children within a period, the limits of which are more or less arbitrarily fixed, would be to render an obvious injury and injustice to both the individual and the community.

To illustrate the length of time which women may go with-

<sup>&</sup>lt;sup>1</sup>Bishop on Marriage and Divorce, Deane vs. Aveling, p. 175.

out conceiving, I may mention two instances from my case book in which the patients were sterile (one-child sterility) for twelve and seven years respectively, and then, as the result of a limited amount of local treatment, became pregnant and gave birth to healthy living children. In both of these cases the sterility was evidently due to the cause which is the subject of this paper. Oliver' records the case of a gardener's wife who became pregnant for the first time after ten years of full connubial relation; and a still more remarkable instance is reported by Nieden<sup>2</sup> of a woman aged 44 who conceived and bore her first child, a nine-pound girl, after twenty-five years of unfruitful married life.

The influence of sterility on national growth is seen in the present condition of France. Rochard,<sup>3</sup> in a recent paper before the Academy of Medicine of Paris, states that of ten million French families in 1888, two million, or one-fifth, had no offspring, while two million more had but one child. The effect of this sterility, together with the stringent marriage laws of that country, has given rise to a condition of progressive depopulation which, according to consular reports, seriously menaces the French people.

The last State census of Massachusetts also shows that onefifth of the married women in that commonwealth are sterile. From this and other data which it will be unnecessary to quote, it would appear that the race of original settlers of this country is fast dying out, the local increase being the result of the multiplication of the foreign resident element.

The conditions which may give rise to or result in sterility in woman are so numerous and varied that a discussion of them all would require the latitude of a book and could hardly even be touched upon within the limits of a paper. I shall therefore confine myself to the brief consideration of a condition which, in my experience, is the most frequent cause of sterility, excepting, perhaps, abnormalities of the sexual tract. I refer to inflammatory conditions of the lining mucosa of the uterine neck and body. After a considerable experience with this class of cases, I am sure that I can say

<sup>&</sup>lt;sup>1</sup> Liverpool Medico-Chirurgical Journal, January, 1890.

<sup>&</sup>lt;sup>2</sup> Archiv für Gynäkologie, No. 5, 1889, page 871.

Review in Internationale; Klinische Rundschau, November 30th, 1890.

with truth that I have never seen a case of sterility in a woman, not the subject of a malformation or a new growth, in which endo-cervico-metrial inflammation did not exist.

The source of this condition is most frequently attributable. in women who have had children, to parturition or abortion; in the newly-married it may be due to a previously existing slight uterine catarrh in a displaced, usually anteflexed, uterus, or the manifestation of a depraved state of the system. In the majority of the newly-married, however, the endometrial inflammation is probably due to the first efforts at conjugal approach. Observation leads me to believe that many young women, as the result of their activity in the preparation of the wedding trousseau, augmented perhaps by a round of gayeties, late hours, and nervous anticipations or apprehensions, enter the married state in a condition bordering on physical exhaustion, and there begin the engorgements and inflammations which lead to future suffering and sterility. The effect of repeated coition, provided impregnation does not at once take place, is to flush and distend the uterine vessels, to modify the innervation, to alter the nature of the glandular secretions, and thus to produce such changes in the endometrium as lead to inflammation and reflex phenomena. Backache, leucorrhea, and irritable bladder are the ordinary signs of this condition; but frequently rectal tenesmns, head and gastric symptoms, dysmenorrhea, and menorrhagia are added in the more pronounced forms of the disease.

In many cases the disease continues in a mild catarrhal form, giving the patient little inconvenience beyond the slight leucorrheal discharge which stains her clothing; but often this is sufficient to prevent the normal formation of the decidnæ and attachment of the ovum, even should impregnation have taken place. I have seen a number of cases of regularly menstruating women in whom all the symptoms pointed to frequent, almost monthly, abortions.

Physical examination in these mild forms reveals a cervix more or less softened, the os externum reddened and inflamed, and the canal filled with a plug of sago, white of egg, or muco-purulent discharge. In many cases there exists a sensitive spot at the os internum over which the passing of the most delicate probe causes a spasm of exquisite suffering, and

where the mucosa of the fundus uteri is also involved the merest pressure of the probe against it elicits pain. Frequently a few drops of blood follow the withdrawal of the instrument. During the intermenstrual period, under normal conditions, according to Tyler Smith, a plug of clear, viscid mucus, which is secreted by the glands of the cervical canal, blocks up that passage, but is washed away each month by the menstrual discharge. This obstruction must seriously interfere, under ordinary conditions, with the entrance of the spermatozoa into the cavity of the womb, and renders the former theory, recently revived by Bossi, that impregnation is most likely to occur just after the menstrual epoch, quite tenable.

But here we must consider another element in the prevention of conception, due to the inflammatory changes in the mucosa. The reaction of the normal vaginal mucus is acid, that of the cervix alkaline; but, as the result of the inflammatory conditions present, the reaction of each is often greatly intensified, especially of the vagina, which also frequently has an exceedingly sour and penetrating odor. This acid discharge, bathing the neck of the uterus, penetrates more or less into the cervical plug and causes coagulation of the alkaline mucus. Mitchell states that the cervical canal often has an acid reaction, but I must agree with Haussmann<sup>3</sup> that the condition is not due to the local glandular secretion, but is transferred from the vagina.

In normal condition the alkalinity of the seminal fluid appears to be sufficient to neutralize the acidity of the vaginal secretion, so that the spermatozoa may remain for seventeen days or longer (Bossi) within the vaginal canal, even during a menstrual period, without having their vitality destroyed.

When the hyperacidity of the vaginal secretion is present, however, it is altogether probable that the fertilizing element is at once rendered inert: but should any of the spermatozoa by chance succeed in reaching the os externum and cervical canal, the coagulated mucus, and the increased alkalinity of

<sup>1 &</sup>quot;Pathology and Treatment of Leucorrhea," Philadelphia, 1855, p. 46.

<sup>&</sup>lt;sup>2</sup> Nouvelles Archives d'Obstet. et Gynécol., April, 1891.

<sup>3 &</sup>quot;Ueber das Verhalten der Samenfaden in den Geschlechtsorganen des Weibes," D. Haussmann, Berlin, 1879.

the secretion there, would, in all probability, put an end to further progress.

The conditions, then, in the disease under consideration, which appear to prevent fecundity, are:

1. The absence of a proper nidus for the ovum.

2. The obstruction of the cervical canal by the mucous plug.

3. The increased alkalinity of the cervical secretion, often accompanied by an exaggerated acidity of the vaginal mucus.

The causes of sterility once understood, treatment is easily inaugurated. Our first object is to bring about a normal condition of the endometrium—a task which is often difficult, and may necessitate treatment extending over a period of many months. Intra-uterine applications, the curette, and not infrequently the dilator must be called into service. The vaginal secretions must be corrected by douches and alkaline washes, and the bowels regulated. Whenever the general system is lowered in tone tonics are indicated, and it is often wise to continue their use until some time after the local symptoms have subsided. Where the nervous system is much deranged general faradism and massage are of the greatest benefit, while sedatives and nerve tonics are always of importance whenever indicated.

As illustrating the condition, the symptoms, and treatment which I have briefly rehearsed, I have selected two cases from my records, believing that these will serve to make clear the preceding remarks as well as would a hundred of the same kind.

Case I.—Mrs. K., German, age 26, married two years, but has never been pregnant, and is very desirous of having a child. She has suffered three or four years, and has been under several physicians, but has obtained no relief. Complains now of pain in right side and of intense itching of vulva.

Menstruation began at 15, regular until marriage, but since has appeared every three weeks. Formerly flowed four or five days, using three or four napkins; now one to two days, with one napkin. Pain just before flow, kneeache, backache, etc. Her sufferings now are so severe that she is obliged to be in bed during a part of the time. A white,

thick leucorrheal discharge is persistent. Bowels consti-

pated. General health good.

Physical Examination.—Uterus retroverted, normal size, mobility good; length of cavity two and three-quarter inches. Cervix long, conoid; external os slightly relaxed, showing inflamed mucous membrane. Canal filled with glairy mucus. Blood follows withdrawal of probe. The labia minora project some distance below the larger lips, and their mucous covering is skin-like and harsh.

Diagnosis.—Endometritis, conoid cervix. Pruritus vulvæ,

due to profuse leucorrheal discharge.

Treatment continued over seven months, twenty-two visits. This consisted in dilatation of the uterine canal with Ellinger's dilator, the application of campho-phenique and iodized phenol to the cavum uteri, painting the cervix with tincture iodine, and tannin and iodoform-glycerin dressings. Cocaine, campho-phenique, and a ten-per-cent solution of silver nitrate were applied to the labia. On one occasion she had vaginal negative galvanism for ten minutes. Cathartics and general tonics were also given. Two months after treatment was discontinued she became pregnant, and in due time I delivered her of an eight and one-half pound boy after a normal labor.

Case II.—Mrs. B., age 23, a thick-set, healthy-looking brunette, married between three and four years. Two years and a half ago she aborted at three months, and flowed for thirteen weeks subsequently. Menstruation began at 15, irregular and scanty; pain for three days before, and during the first two days. Complains now of severe burning in left ovarian region, which is worse a week before the flow. Has a profuse, rusty leucorrhea. Bowels constipated. General health good.

Physical Examination.—Perineum very strong and thick. Vagina small, tight, and sensitive, rather rough feel; examination almost impossible on account of the vaginal spasmodic contraction. Pressure over ovaries causes considerable pain; no enlargement apparent. Conoid cervix; no indication of previous abortion. Cavity about two and one-half inches. Cervix closed, hard; blood follows probe. Vaginal secretion

very sour, with penetrating odor.

Diagnosis.—Ovarian hyperemia; endometritis catarrhalis; vaginismus; hyperacidity of vaginal secretion.

Patient seen fifteen times during a period covering several months. At first only sedatives were given; later local applications of potassium-iodide glycerin, and hot vaginal douche, once a day, were employed. At the eleventh visit I thoroughly dilated the uterine canal, under an anesthetic, with Goodell's dilator, and swabbed the cavity with iodized phenol. Treatment continued at irregular intervals for a few months, when, the patient becoming pregnant, it was suspended. She was delivered of a seven and three-quarter pound male child at term, and became again pregnant about eight months later.

83 LAFAYETTE AVENUE.

# A CASE OF ECTOPIC GESTATION;

DEATH OF THE FETUS AT THE THIRD MONTH; FATAL HEMORRHAGE OUTSIDE THE SAC AT THE FOURTH MONTH.

BY

I. S. STONE, M.D., Surgeon to Columbia Hospital, Washington, D. C.

Mrs. —, colored, widow, age 40 (?), was admitted to Columbia Hospital in July, 1891. She was the mother of several children and had been a widow eighteen months. For four months she had failed to menstruate regularly, and had been treated the entire period in dispensaries and hospitals without relief, and until the time of her admission denied the possibility of pregnancy. Her condition indicated collapse, and a hurried examination was made, which gave me assurance that she was pregnant, that it was in the cavity of the broad ligament of the right side, and that hemorrhage was progressing.

As her pulse could not be counted, stimulants were used freely and preparations made to open the abdomen at once, which was done about two hours after she was admitted. She had fainted twice during this time, and I now regret that I did not open the abdomen without the loss of time expended in trying to revive her.

When the peritoneum was opened a considerable quantity

of fluid blood escaped, followed by much that was coagulated. The broad ligament was clamped, close to the uterus and at its distal extremity, with forceps, which quite effectually controlled the loss of blood. The removal of the clots from the pelvis exposed the sac to view, which was in and below the broad ligament, and was ruptured by my manipulations.

A three months' fetus escaped at once with the amniotic fluid, and the placenta followed closely after it without breaking the cord.

The lower part of the sac extended far down below the uterus, and in the lowest portion was found a considerable quantity of old, dark blood clct. Very little hemorrhage appeared to come from the sac, and hot-water flushing served to check this and leave the abdomen in fairly good condition to close, which was done in about twenty minutes after the operation was begun. The patient's pulse appeared to improve under the anesthetic, but she died soon after reaching her room.

Careful examination of the fetus and placenta showed that "separation" must have occurred some weeks previous, as the fetus was undergoing maceration, as evidenced by soften-ing and separation of portions of epidermis. The old blood clot in the sac probably indicated the time of the placental separation and fetal death. Necrosis of the sac and vessels supplying it through the broad ligament caused the fatal termination, as the blood poured into the abdomen without hindrance.

It is quite certain that an operation done earlier might have saved the patient. The symptoms of extra-uterine fetation were marked, and her history for the four months of her pregnancy gave every indication for active interference, yet she was treated for nearly every form of pelvic disease save the right one. She had frequent attacks of syncope, pain, and occasional discharges from the uterus; yet her statement denying intercourse had been taken in evidence, rather than the actual physical signs.

In reviewing the literature of ectopic gestation I have been unable to find a case similar to this, which shows that danger to the life of the patient is not always averted when the death of the fetus is accomplished.

## CORRESPONDENCE.

THE BENEFITS OF THE "INCLINED PLANE"—TOO MANY NEEDLESS MUTILATIONS.

To the Editor of The American Journal of Obstetrics, etc.

DEAR SIR:—In the Transactions of the Woman's Hospital of New York, published in the March number of the Journal, I am much impressed with two ideas. The first is the very valuable and practical communication of Dr. T. A. Emmet, whose suggestions relative to pelvic circulation and the inclined plane deserve more than passing notice.

Ten years ago I noticed that women having impaired pelvic circulation were better while lying down. Since that time I have carefully dissected some thirty bodies with special reference to the condition of the pelvic and abdominal viscera. I have distinctly found that the most healthy females are possessed of very tortuous arteries and veins narrow, tortuous arteries and narrow, tortuous veins being characteristic of normal pelvic viscera. So far as the diseased pelvic circulation is concerned, it seems that the veins are first affected. Time after time I have found in diseased pelvic viscera veins which were dilated in one place and narrow in another. The veins were sacculated and straightened out. They had lost their peculiar tortuosity. The method I have used to demonstrate this the past three years has been to inject about a gallon of fluid slowly into the arteries, and in some few hours the pelvic veins will be found quite full of dark blood. In the aged the veins are very often highly dilated. The arteries are occasionally found straightened, dilated, and with thin walls. Now, of course, these dilated, straightened, sacculated veins will hold a large amount of blood when the woman sits or stands. We all thought of putting the woman to bed, but to Dr. Emmet is due the credit of telling us how to further deplete the pelvis by raising

the foot of the bed twelve to eighteen inches. This is a most excellent suggestion, and we have all employed the same principle in elevating a leg or an arm.

The cause of the dilated pelvic veins is not always clear, for I have found the veins dilated in cases which showed no peritonitis and in cases which showed more or less peritonitis. A loss of tone in the pelvic tissue is important. One may see venous dilatation in the pelvis, especially in multiparæ. Here submucous laceration is active in cause. I have also observed in many animals (pig, cow, sheep) and man that some degree of uterine subinvolution often existed after bearing the young, and that in multiparæ of mammals the pelvic veins were dilated to a certain extent. This is no doubt due to a subinvolution of the pelvic tissues. Cardiac diseases play a special rôle in dilatation of pelvic veins. Prolapse of the uterus and pubic segment of the pelvic floor is a fruitful cause. Inflammatory processes in the pelvic tissue, peritonitis, and cellulitis are most important, because such inflammation causes constricting bands in various places, and such bands will compress the vein in one place and allow it to dilate in another. Whatever the cause, we may look for a large amount of pelvic disease which is due, directly or indirectly, to the pelvic veins.

Few men who do not carefully perform post-mortems will accede to this view; but more pathology lies in the pelvic veins than they have been credited with. Hence in pelvic diseases one should not forget the veins. In life, inspection of the color of the parts will aid to diagnose pelvic venous dilatation. One can learn much from the condition of the woman in standing or lying; but the whole trouble of venous dilatation cannot be cured until the relaxed tissue is contracted—until the blood vessels are allowed to regain their normal calibre and tortuosity. After distinct venous dilatation they probably never regain fully their normal. The inclined plane is a very valuable suggestion in the treatment of such cases. It has common sense and is practicable, as the position can be maintained for weeks. I had practised giving hot douches for years after elevating the woman's hips, and have found it far more effectual in clearing out pelvic exudates than when the douche was given lying simply horizontally.

Dr. Emmet's remarks on the pelvic veins have been very valuable to me, and I wish to extend my thanks to him through the columns of your Journal. For quite a number of years I have benefited by Dr. Emmet's teaching and the practical suggestions which he has thrown out from his observations. We also thank Dr. Emmet for his kind reception of Western medical men in New York. He has received us kindly and courteously and taught us faithfully. We are proud of him as a progressive gynecologist. In the rapid strides of the science his record stands among the foremost.

The second idea is for the sake of woman. Dr. Dudley said at the same meeting that "if the graduates of this hospital expected to move forward on the crest wave of gynecological success, they would have to give more attention to the peritoneal side." The reader may observe that the text is both suggestive and practical. The doctor had previously hinted that the fame of the Woman's Hospital of New York had rested on plastic surgery. But now the men of New York must cultivate the peritoneum to sit on the front end of the crest wave of gynecology. Note what this advice means. It means that the New York gynecologists are to cut open more peritoneums to keep up their "record of progress." But, I ask, how could the New York men do that with the present population? To advise the New York gynecologist to increase his abdominal sections is like praying for heat when the thermometer stands 110° in the shade. What are the reports of gynecologists who go to New York for the purpose of improvement? The other day I overheard one who had just spent one year and a half in New York studying in the main gynecological hospitals. He informed his two medical friends that they "did a host of laparatomies in New York. Why," said he, "there is Dr. X., who does an enormous number of laparatomies, and for what? Almost nothing!"

I lately met a physician who had spent nearly three years in New York in close connection with the gynecologists, and his report was about the same. It must be distinctly understood that all do not agree with Dr. Dudley in urging an increase in abdominal sections. Doléris claims that four-

fifths of the oöphorectomies done in Paris are unnecessary. Is there not cause for such a radical statement! It may be recognized that in all forms of error there is a grain of truth. I am fully convinced that one-fourth of all ovariotomies in the United States are entirely unnecessary. A few years ago I thought that the removal of the so-called "cystic ovaries" was all right and called for, but I have been of a different opinion the past five years. Up to this time I have examined fully one thousand ovaries and tubes of man and animals, and I now know I have seen many entirely unjustifiable removals of ovaries. I am glad to see other men of the same opinion, and the continual debates at medical meetings on ovariotomy or no ovariotomy are a good sign toward a better settlement of this very important matter. The so-called aggressive laparatomist always presents his long list of recoveries to show that his "removals" are all right. Just therein lies the fallacy. When a boy on my father's dairy farm dozens of castrations occurred annually, and our neighbors castrated the young roosters so that they would grow fat. In these eastrations no one ever expected a death, and about all really recovered possibly two per cent died. But does the science of medicine call this sweeping removal of organs surgery! Of course not; the castrations in the case of the bull, boar, and cock were merely done for convenience. It was a matter of commerce and trade. Sweeping removal of organs is a backward step in surgery. How often have I listened to the "aggressive" laparatomist explaining that before the operation the pain of the woman was "unbearable," and that at menstruapain of the woman was "unbearable," and that at menstrua-tion—why, "she simply could not stand it"; she "just doubled up." Observe the laparatomist employing the woman's lan-guage and report of her own case. This very laparatomist at other times would say, with unlimited dignity, that if a woman's statement and physical condition did not harmonize he, of course, would not believe her. But, queerly, he believes her about the *unbearable* pain in her ovaries. Just think of the enormous number of ovaries removed in the United States annually! One man alone last year reports two hundred removals in New York—and New York is well supplied with many other laparatomists. Watch the reports from Cincinnati, Boston, Philadelphia, and Canada. Observe the

dozens removed monthly in Chicago and San Francisco. A country doctor came to my friend the other day and said he did thirty-five laparatomies last year. A well known Cleveland gynecologist informed me that a young man in a town of about three thousand did seventy-two laparatomies in some seventeen months. Arrays of recoveries tell nothing. It is the subsequent life of the individual which must tell the story. Silly reports must be sifted. Listen to a report from a Wisconsin man: A young woman had been ill for several years, and she acted slightly insane. Dr. Z. removed her ovaries, and said just as soon as she awoke from the chloroform the insane stare left her face and she got right well. That report appeared in a recognized journal. Such a report has no place in a sensible man's record. Hystero-epilepsy has proved a bad handle for the aggressive laparatomist, for he will operate on slight indications to prevent further "fits."

The celebrated Gowers, of London, said in 1888: case has come under my notice suggesting that uterine or ovarian disease can be regarded as a cause of epilepsy" ("Diseases of the Nervous System," page 1081). It is well recognized that New York is the gynecological centre of America. May she so act that time will not have to make very numerous corrections. I am glad to see Dr. Mundé stand up for the right of the peritoneum not to be invaded for light and transient causes. I believe Dr. Mundé is right, that too many laparatomies are being done, and I will risk my reputation that time, which compels forces to bend, will prove it. I wish it to be understood that I have no tirade to deliver nor any hobby to ride, but I speak from actual examination and observation. The test for ovariotomy should be pathology. Let every ovary removed be submitted to competent pathologists, and soon there will arise a more decided standard. Let the pathologist be the man to give some advice to the extreme laparatomist and the slow conservatist. We generally remove organs for some pathological cause. I fail to see why the ovary does not come under ordinary rules. If it does not it is high time for special pathology to come to our aid.

FRED. BYRON ROBINSON.

No. 999 W. Madison St., Chicago, March 19th, 1892.

## INTRA-UTERINE PACKING FORCEPS.

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS, ETC.

Dear Sir:—In the March issue of this Journal, on page 362, is found a letter from Dr. Charles Hermon Thomas, of Philadelphia, beginning with the words: "Permit me to call attention to the description of the intra-uterine packing forceps published by Dr. Henry J. Garrigues." He then goes on to invite attention to his own "uterine applicator and dressing forceps combined," described in the same Journal in 1886. He admits, however, that both ends of the instrument described by me differ from his, and he might have added the middle too, since his instrument has the old-fashioned inseparable lock, while mine has the modern French lock, which permits of thorough cleaning and disinfection.

Some likeness remains, of course, between the two instruments, as there invariably must be between two pairs of dressing forceps, and as there is, for instance, between Dr. Thomas' instrument and those of Bozeman, Elliot, and divers others, the only difference being the slenderness of the beak, which is necessary when the instrument is to be carried through the cervix.

The history of my forceps is as follows: A young, beautiful, nulliparous lady, through the indiscretion of her husband, contracted gonorrhea and came to me with pus pouring out of her uterus. The narrowness of the genitals made the treatment difficult, and I found my old instruments ineffectual. I had, therefore, a special glass tube made for the case, and, wishing to pack the uterus with iodoform gauze, went to Stohlmann, Pfarre & Co.—Tiemann's up-town establishment—and asked them to show me all instruments they had that would be likely to be available under the circumstances. Among others they showed me Dr. Thomas', which I tried, but found that it did not answer the purpose. Then I took the liberty to have them make a forceps according to a description given by me. It proved somewhat difficult to carry

out my plan, and the instrument had to be altered several times before it suited; but finally they made one to my entire satisfaction, and, thinking that perhaps it might be useful to others, I published the description with the drawing.

Since this method of packing the uterus has been used in Germany for years, I do not doubt that there exists some suitable instrument for the purpose of packing an undilated uterus; but not finding one in the largest instrument manufactory in the United States, I devised one, and in so doing had particularly in view that I wanted it so that it could be used in the dorsal position—which, in my opinion, is the only correct one when the cavity of the uterus is to be irrigated before packing it—and through Cusco's speculum. I do not attempt to found a reputation on a slender forceps, but I certainly claim the right to construct it and describe it.

Yours sincerely,

H. J. GARRIGUES, M.D.

155 LEXINGTON AVENUE, March 17th, 1892.

# TRANSACTIONS OF THE NEW YORK STATE MEDICAL SOCIETY.

Meeting of February 2d and 3d, concluded from page 381.

Dr. O. E. Herrick, of Grand Rapids, Michigan, read a paper on

OPERATIVE PROCEDURES IN UTERINE DISPLACEMENTS.1

Dr. G. M. Edebohls, of New York, said he only partially agreed with the author. He disagreed, in the first place, with the assumption that the round ligaments had nothing to do with keeping the uterus in anteversion. In his opinion this was the only function of the round ligaments. That these ligaments would hold the uterus forward had been shown by numerous experiments. Shortening them was followed by the surest result obtained by any gynecological procedure. He had shortened the round ligaments in as many as forty cases—twenty-two more than a year ago—and in all the uterus had been retained in the normally anteverted position and the

<sup>&</sup>lt;sup>1</sup> See original article, page 490.

patients had been relieved of the pain complained of. While he was quite willing to admit that shortening the utero-sacral ligaments, or pulling backward on the cervix, would tilt the fundus forward, yet he did not believe it was so nearly a physiological procedure as shortening the round ligaments. The suture was likely to give rise to adhesions of an undesirable nature. He also thought there was some danger of puncturing the rectum and setting up sepsis.

Dr. F. F. Dow said he had adopted a new procedure in one case of laceration of the cervix with posterior displacement. He made an incision deeper than the laceration, and sutured the anterior and posterior walls of the cervix together in such a way that the anterior one was shortened, which brought up the fundus. The overhanging anterior lip was then cut

off. The result had been satisfactory.

Dr. I. S. Stone, of Washington, said he had seen very few cases of posterior displacement in which he would not be afraid to perform the operation suggested by Dr. Herrick, through fear of rendering worse complicating conditions or of setting up new ones. Symptoms which drove women to the surgeon were almost always due to some other condition than that which could be remedied by either Alexander's operation or that of shortening the utero-sacral ligaments.

Dr. I. S. Stone, of Washington, read a paper on

A CASE OF ECTOPIC GESTATION; DEATH OF FETUS AT THIRD MONTH, AND FATAL HEMORRHAGE OUTSIDE THE SAC AT THE FOURTH MONTH. 1

Dr. W. Gill Wylie, of New York, read a paper entitled

THE IMPORTANCE OF DRAINAGE IN THE TREATMENT OF DISEASES OF THE ENDOMETRIUM.<sup>2</sup>

Dr. W. M. Polk, of New York, said the paper, like many others coming from its distinguished author, contained two features which might be discussed separately. The first was the personal explanation of his position; the other related to what was pertinent to the subject in hand. It was never a grateful task, he said, to make criticisms of a personal kind, while it was always a pleasing task to him, if task it could be called, to speak upon questions which tended to the advancement of our science.

Speaking first of the scientific points raised, he said he supposed that all present would admit the desirability of draining a diseased organ which, like the uterus, was so prone to the retention of decomposing material, and which, being so close to

<sup>&</sup>lt;sup>1</sup> See original article, page 500. <sup>2</sup> See original article, page 441.

the peritoneum, was liable in its diseased state to give rise to dangerous complications. The question then arose, how could the uterus be best drained? Each one was apt to think his particular procedure was better than those suggested by any one else. He supposed that he himself was not altogether free from that fault, since he found himself positively at variance with the author regarding the possibility of introducing gauze into the uterus and having it retained there. He thought that analogy taught that gauze was the best drain, no matter whether it was desired to drain the peritoneum, the uterus, or an old abscess. His personal experience confirmed the teachings of analogy. He had thought it a little strange, while listening to the reading of the paper, that the author should again make the same statements, regarding the impracticability of inserting gauze into the uterus and draining in cases of endometritis, which he had made in discussing a paper read by Dr. Polk two months before. Dr. Polk had then said that it was possible to insert gauze and so drain the uterus, and even invited the gentleman to witness the procedure in his ward at the hospital where both of them were visiting physicians. Further, he had sent word to him subsequently, begging his presence as one of the visiting physicians of the hospital. Dr. Polk would not suggest that his reason for not accepting the invitation was a fear that he might be compelled to retract his utterances on the practicability of the

As to the method of preparing the uterus for the introduction of the gauze, or even any other drain, that described by Dr. Wylie was certainly the proper one. But that gentleman had taken pains to inform us that he had been engaged ten years in teaching the medical profession how the interior of the uterus should be reached. But his efforts would seem less deserving for their novelty when we recalled the fact that in the year 1627 the wife of John Hall, daughter of the celebrated William Shakspere, submitted to the same procedure. Much of the history of intra-uterine treatment would be found in the Transactions of the New York Obstetrical Society, of which Dr. Wylie was a member, the article having been

written by Dr. Pallen.

Regarding the possibility of introducing the gauze, he would say that the canal could be dilated a third of an inch, and that was sufficient for this purpose. In subinvolution it could be dilated more, if indeed dilatation were necessary at all. The uterus which had never been pregnant, which was the seat of endometritis dependent upon stenosis, could likewise be packed with iodoform gauze. He would go still further and say that every uterus the seat of acute gonorrhea ought to be packed, though with proper care, in order to

establish drainage. He believed that, if drainage were applied wherever it was indicated, there would be decidedly fewer cases of pyo-salpinx calling for laparatomy. As to priority in methods of intra-uterine treatment, Goodell and others had written about these methods before the date named by the author as marking the period when he began his work.

Dr. Mordecai Price, of Philadelphia, expressed surprise that Dr. Wylie and Dr. Polk advocated forcible dilatation of the uterns. The question had been asked repeatedly, why so many abdominal sections upon women? He answered that gonorrhea and the dilator were the two most important causes to-day. He had within a short time removed the appendages for pus disease in as many as five women whose condition was brought about by nothing else than the dilator in the hands of some of the most distinguished gynecologists in America. It was the dilator, not gonorrhea, which was to blame. Yet gonorrhea undoubtedly was a cause in many cases. He said he was thankful that he did not own a dilator, and he never would. If his wife had endometritis he would call the last man in the world before that one who

would insist on dilating, or even inserting a drain.

Dr. Joseph Price, of Philadelphia, said that some time ago he threw some hot shot into the professional ranks by reading a paper upon this subject. A series of papers by others followed, he supposed upon the principle that the last speaker was always on top. He must say that the two justly distinguished teachers who had first spoken had surprised him greatly. They had called attention to the many pelvic troubles now calling for mutilating procedures. Those present found it necessary much more frequently to send patients to these gentlemen for laparatomy than they did years ago. It was because formerly diseased appendages did not exist to anything like the same extent. Many years ago he was in charge of a reformatory for fallen women. He found that in many of these women, who had led lives of lust and inebriety, and had been sterile from one to six years, beginning often with a miscarriage or an abortion, a stay in the home for six months was followed promptly on their leaving by pregnancy. The treatment had not been local; it had simply been general—iron, tonics, suitable diet, the bowels kept soluble. Similar observations could be made by every physician among those who had not led lives of shame among their patients and the wives of their friends. For instance, the wives of four of his professional friends, who had been sterile for years, conceived immediately on their husbands' return from the last International Medical Congress. They had received no treatment by way of dilatation or drainage during the absence of their husbands. This was the

observation of only one man. How many more eases of the kind must there have been! Indeed, nothing was much more common than conception after a vacation by the husband or wife, and that, too, without any treatment undergone by the wife meanwhile. A warning well worth heeding was the harsh criticism of husbands when they expressed themselves as getting tired of this constant tinkering and spaying of their wives.

All, he feared, would be a little surprised at what he was about to say. He scarcely ever recognized acute or chronic endometritis, except it were of a specific nature. In specific cases he agreed fully with Dr. Polk as to the necessity for prompt and radical treatment. But as the books described acute and chronic endometritis he failed to recognize it and never treated it. Dysmenorrhea existed probably in all our wives in minor degree, and about all of us were probably fathers. None of our wives, or very few, had been dilated or drained. He could easily name twenty young professional friends who had married about the time he had, and all had children. Many of their sisters were suffering from dysmenorrhea, and many of them had undergone treatment, and, more, some had undergone laparatomy, and he was satisfied that the previous treatment had been responsible for the need of the so-called mutilation.

Tubal and ovarian disease was exceedingly common at present, and among other procedures which were partly responsible for it was that for lacerations of the cervix. Here Dr. Emmet, the inventor of the operation, and than whom there was no greater authority, had long since called a halt. He recognized that in its indiscriminate application not only did some mischief follow, but that the mortality was often actually as great as from laparatomy in the hands of experienced gynecologists. One of his own colleagues, he believed, had reported three deaths in a series of one hundred and twelve operations for closure of cervical lacerations. There was scarcely a mucous membrane of the body to which we applied so many irritants as to that which lined the uterus. The nose, ear, or eye would not tolerate such heroic treatment. Why should we apply it to the cavity of the uterus?

Dr. Paul F. Mundé, of New York, wished to express his belief in the existence of chronic endometritis, because he had seen it frequently and must admit that it deserved treatment. Men who saw many such cases could not be accused of being either blind or ignorant. The remarks of the gentlemen who had opposed treatment of endometritis not of a specific nature gave him the opportunity to express more emphatically his views on the subject, which were in harmony with those of Dr. Wylie and Dr. Polk. He had at first intended to speak more particularly upon the author's claim to

infallibility or priority in the use of methods applicable in cases of endometritis as described in the paper, but it would seem that Dr. Polk had dealt sufficiently with that phase of the discussion, and he did not care to heap coals of fire upon the gentleman's head. He had done practically the same things mentioned in the paper for many years. There was no question at all of Dr. Wylie having done the things which he claimed to have done, but there was also no question of others having done them too. Many had dilated, had drained, and many had curetted and likewise cauterized in cases of endometritis. He might say that it was not really necessary, after dilating, curetting, and, when needed, cauterizing, to put in a drain either of gauze or a tube, for the uterus so treated would drain itself. Yet in anteflexion or retroflexion there might be an obstacle to the outflow. He knew it was not exactly fashionable at present to advocate intra-uterine medication. Even the great masters, Thomas and Emmet, who had recommended it in their books, had "gone Yet the speaker was unable to understand why the mucous membrane of the uterus should be treated on different principles from those applied to mucous membranes of other cavities. True, Dr. Emmet said it was not a mucous membrane at all. Yet it had glands, it had epithelium, and it secreted a form of mucus; and he was unable, as stated, to understand why it should not be treated like other mucous membranes. He admitted that his former method of treating endometritis was a bad one, and he thought Dr. Price's remarks quite apropos to the unnecessary and frequent tinkering and tearing of the uterus that had sometimes been prac-Unnecessary gynecology was as bad as meddlesome midwifery, or worse, and he did not doubt but what many cases of salpingitis had been due to unnecessary or bad uterine medication. But for all that, medication here, when necessary, was just as necessary as medication anywhere else. It was just as necessary to treat a chronic endometritis locally as it was to take out a pus tube.

Formerly he treated chronic endometritis badly. He tried to cure it by frequent mild topical applications. He thought that did harm, because women were treated at the office and returned to their homes, perhaps a distance of miles, and in doing so ran the risk of getting up a peritonitis, salpingitis, or possibly even hemorrhage. He now treated the disease and cared for the patient on the principle of doing an operation. He had the patient enter his private hospital or he went to her house. He took all antiseptic precautions. He gave an anesthetic when necessary, made thorough dilatation after washing out the vagina and uterus by bichloride solution, scraped with a sharp curette, swabbed out thoroughly

33

with a fifty-per-cent solution of chloride of zine, put in fine iodoform gauze for drainage. While the gauze was not absolutely necessary, he thought it was on the safe side. The woman was put in bed for three or four days, or at most a week; an ice bag was placed on the abdomen to avoid possibility of peritonitis. His results from this treatment had been excellent, and permanent cures had usually ensued in a much shorter time than under the old palliative methods.

He had read and appreciated Dr. Price's article, and thought that the thorough discussion which the subject of intra-uterine medication was receiving would result in good.

Dr. H. J. Boldt, of New York, could only reiterate what Dr. Polk and Dr. Mundé had said regarding the question of priority. Regarding the existence of chronic endometritis, there was no doubt of it in his mind, and he thought Dr. Price would also become convinced if he would make sections of a large number of uteri, as the speaker had done. The reason why so many cases of disease of the adnexa had arisen from attempted uterine treatment was failure to observe proper antiseptic precautions. With the same care observed in laparatomy, intra-uterine treatment would be unattended by inflammation of the tubes and ovaries.

Dr. Joseph Hoffman, of Philadelphia, thought that nearly every inflammation of the uterus followed by a discharge, and not genorrheal, had its origin either in a cervical tear or a displacement of the organ. Treatment, therefore, should always begin with the idea of getting the organ into proper position and the cervix in proper condition. The uterus showed great docility under the abuse to which it was subjected in the way of caustic applications, dilatation, etc.; yet these assaults were often carried to such extremes that serious

pelvic complications arose.

About the only circumstance under which dilatation of the cervix was justifiable was in abortion. He could not but regard dilatation of the entire uterine canal as a very dangerous procedure. He had, not long since, been compelled to perform laparatomy on a woman for a condition which he was convinced was due to the use of the intra-uterine dilator by a practitioner of repute.

Dr. Eugene Beach said he thought at one time that he knew what to do in so-called endometritis, or cases of fungous growths within the uterus. Now, however, he would

return home not knowing what in the world to do.

Dr. Wylle, in closing, said he had hardly expected to stir up quite so much excitement when he read his paper. As to claiming infallibility, he thought it hardly necessary to say that he never did. Nor did he claim anything in priority further than that he was first to make much headway in the

treatment of chronic endometritis associated with dysmenorrhea and anteflexion, and in some cases with posterior displacement. When he wrote his first paper much had been said about dilating and curetting and cutting the os for stenosis in anteflexion, but very little or nothing had been written or done in New York about the treatment of chronic endometritis by dilating, curetting, and draining. gauze, he would admit that in certain cases it was a useful temporary drain, but to introduce it into an organ which had a tendency to contract spasmodically he thought was a mistake. Much misunderstanding had arisen in confounding two classes of cases. One class included cases of recent abortion or miscarriage, or new growths, or cases of subinvolution due to some such cause. But the cases to which he had specially referred were those of imperfectly developed uteri, with dysmenorrhea and a sensitive and indurated endometrium. In such cases it was impractical to introduce gauze; or, if it were introduced, the uterus would contract and force it out of the os internum; or, if the gauze should remain in for twenty-four hours, it might, unless the strictest cleanliness could be enforced, prove the nidus for germs. Not so with the hard-rubber tube.

He thought it strange that his Philadelphia friends had got no further than pus tubes. He had himself operated in several hundred cases of pyo-salpinx, and he was sure there were a number of gentlemen in New York who could make a distinction between endometritis and salpingitis. Lately some men in New York were advocating dilatation and drainage of the uterus even where pus existed in the tubes. Dr. Wylie, however, did not go that far, although he admitted that in some subacute cases it might be done without great danger, but he did not see the necessity for taking any risk. As to caustics, he had not used them for twenty years, and believed persons who did apply them produced a scar which would lead to more harm than the original condition for which they made the application. The general practitioner should in no case dilate, curette, and drain, unless he was capable of doing it in

a surgical manner and with perfect cleanliness.

Dr. Joseph Hoffman, of Philadelphia, read a paper entitled

ECTOPIC GESTATION; ITS COMPARATIVE SYMPTOMATOLOGY AND TREATMENT.

The symptoms leading the patient to the physician and calling out a diagnosis of extra-uterine pregnancy were likely to be connected either with rupture, with discharge of fetal remains by ulceration, or with signs of viability. Even when rupture occurred, most women were likely, unless there was marked collapse, to regard their pain as of the nature of a

colic and the decidua as the product of miscarriage. The diagnosis must depend largely upon the symptomatology, even in cases where a tumor could be distinctly made out. Normal pregnancy must be excluded. An illustrative case which had come under the author's observation was related. The treatment should not be electricity, with or without puncture, nor morphine injections, but laparatomy.

Dr. E. W. Cushing, of Boston, read a paper on

#### VAGINAL HYSTERECTOMY FOR CANCER.1

Dr. H. J. Boldt, of New York, thought it was about time that operations for cancer of the uterus which did not imply removal of the entire organ should be abandoned. Unfortunately, however, quite a number of surgeons and gynecologists still claimed that the complete removal of the uterus for carcinoma was unjustifiable. Mr. Tait had been alluded to by the author, but it must be remembered that that eminent gynecologist did not study his cases pathologically. amputation of the cervix for cancer was unjustifiable, for the reason that it had been found in a number of cases, after removal of the uterus, that the body contained malignant nodules, where before the operation only the cervix seemed involved. Even one such case was sufficient, in the speaker's opinion, to cast aside high amputation. It was not reasonable to suppose, as had been asserted by some authors, that partial removal was less likely to be followed by a relapse than total removal of the organ.

As to contra-indications, infiltration of the broad ligaments had been mentioned, but a distinction should be made between a cancerous and simple inflammatory infiltration. Where the latter was present it did not contra-indicate hysterectomy. There was a peculiar elastic feel in inflammatory swellings. As to immediate results, in about thirty-three vaginal hysterectomies he had lost three patients, but in only one did he attribute the death to the operation. Ordinarily he relied on ligatures, but in some cases of immovable uteri it

was better not to waste time, but apply clamps.

Dr. Joseph Price said the form of operation was largely a matter of election. He had found that where the case was fairly stated to the patients they almost invariably preferred hysterectomy to partial amputation. As to Mr. Tait's opposition to hysterectomy for cancer, he might recall the fact that this surgeon had also once denounced supravaginal hysterectomy, and section for ectopic pregnancy, yet he had since often performed those operations with great success. Regarding Baker's high cone amputation, he had twice performed

<sup>&</sup>lt;sup>1</sup> See original article, page 433.

hysterectomy on patients in whom the disease had recurred and attacked the vaginal vault after high amputation as performed by masters of surgery. These operations (partial amputations) only complicated what must or should follow, namely, total extirpation. He was willing to admit that all hysterectomies were difficult, whether vaginal or abdominal, but he was also free to say that he always advised it, early or late, if the invasion was not too extensive and had not become general. The trouble was that the operation had been too often only imperfectly or incompletely performed. The incision should be very free. Fixation or invasion often meant simply tube-ovarian disease antedating the malignant malady. This was also at the bottom of some of the cases of bowel obstruction following vaginal hysterectomy.

Regarding the frequency of recurrence, his experience had been exceptionally rare, for it extended over six years, during which time he had operated on forty-seven cases, and, so far as he knew, there had been recurrence in only one, and in that one it took place within six months. As to the class of patients affected, Dr. Emmet and others had spoken of the absence of malignant disease of the uterus in virgins. Curious to say, of his last ten cases, only one of the women had ever gone to term. A few had had abortions, the others had never conceived. He had lost but one case in a series of forty-seven, and in that one the operation had nothing to do

with the death.

### DRAINAGE IN ABDOMINAL WORK,

Dr. Mordecai Price, of Philadelphia, read a paper on this subject. It was based on the observation of over one thousand cases in his own practice and that of Dr. Joseph They included laparatomy for every kind of disease, such as pyo-salpinx, extra-uterine pregnancy, hysterectomy, disease of the liver, of the gall bladder, of the spleen, removal of the kidney, etc. To drainage more than to anything else did they give credit for their marvellously good results. Drainage, he said, was condemned by many who either had not practised it or knew not how to apply it properly. The only justification for the use of gauze in the peritoneum was to stop hemorrhage. Used generally, it caused inflammatory adhesions, left the parts immovable, made a sac which afterwards would discharge pus; it was dangerous, and must in the end complicate the case and perhaps kill the patient by obstruction of the bowel. He had seen gauze used in extrauterine pregnancy and other cases where he was confident the patients would have recovered two or three weeks sooner had the glass drainage tube been used.

Drainage was not intended to do away with the proper

preparation of the case and a cleanly operation. Both were necessary if one would reduce his mortality rate in all cases of laparatomy to two or three per cent, as they had done. They used the glass drainage tube to the exclusion of all other kinds, except in operations on solid viscera where it was desired to set up inflammatory adhesions. The tube should not be shoved in roughly and in an indifferent manner. It must be put in gently, after thorough irrigation of the cavity, and reach the lowest point to be drained. The outer end should project from a half to three-quarters of an inch above the abdomen. Peristalsis would remove any lymph which might tend to form around it, and no adhesions would result. One should especially not be in a hurry to remove the tube in cases of bad peritonitis.

DR. A. P. Dudley, of New York, said he did not wish to see the paper go unchallenged. It contained points which, while strong, yet were weak. The glass drainage tube was all right in its place, but it was used in a great many instances where there was no need for it. He had, during his service as a hospital interne and since, watched over seven hundred cases of abdominal section, in a very considerable proportion of which the drainage tube was used. He had seen good results and also bad results from its employment. He had seen cases of death in which the drainage tube was proven post mortem to have worked evil. He had seen lymph formation around the tube post mortem many times. He had seen the abdominal cavity full of septic fluid while the drainage tube was still in position. He had seen the holes in the tube clogged with lymph while the cavity of the abdomen was full of septic fluid. He was prepared to assert that one could not drain the abdominal cavity properly in general peri-tonitis by means of the glass tube. It was not easy for water to flow up-hill. He had often seen iodoform gauze used, and was prepared to say that it was much more efficient as a drain and gave much better results. In nearly two hundred laparatomies he had used the glass drainage tube only twice, and he lost both of those patients. On the other hand, he had once made seventy-five consecutive laparatomies of all kinds without using drainage in any, and none died. He had employed gauze within the abdomen, but had not brought it up through the abdominal incision. Its end was made to project into the vagina, and into that canal, which was the lowest point, drainage took place. The gauze would also tend to control hemorrhage or give the alarm when it arose. He did not, then, hesitate to use gauze wherever it was indicated. But he drew it out through the vagina, and instead of finding it prolong recovery, he found that it often hastened it. Nor

did it produce intestinal adhesions. It was aseptic when introduced, and was not left in long enough to become septic. In the only two cases which he had ever lost from peritonitis, the cause was due to his failure to use gauze when he felt that he should.

Dr. Joseph Hoffman, of Philadelphia, thought it a strange way to do to dig a hole down under a well in order to get the water out, when all that was necessary was to put in a tube and draw out the fluid by suction. Gauze, he said, must itself be permeated with the fluid before it would drain off, and then it would drain only slowly, and would refuse absolutely to carry off any débris from within the abdomen. Again, moisture attracted moisture. Nothing but the drainage tube could be kept perfectly dry. As to hemorrhage, they did not put the drainage tube in to prevent secondary hemorrhage, but, knowing that secondary hemorrhage sometimes did occur in spite of all precautions, they felt more secure with the tube in, which would give the first alarm. As to accidents occurring from the use of the tube, he and the two Prices had employed it over a thousand times in abdominal cases, without a single accident attributable to the tube; what, then, should be said of the experience of a person who had used it in only two cases, in both of which there was a fatal result! simply a question of understanding how to use it.

To say that gauze did not give rise to adhesions was a mistake. Pack a fresh wound with it to-day, and within two days one could nearly pull his patient out of bed by making traction on the gauze. Granulation tissue grew up in the interstices of the gauze and glued it down. When they operated upon an abscess in the liver and desired to drain outside, they packed about with gauze so as to set up inflammatory adhesions and prevent escape of pus and débris into the peri-

toneal eavity.

Dr. Joseph Price, of Philadelphia, said it was well known that he took a great interest in the subject of drainage, for he had participated in many discussions upon it, and sometimes felt that he should never say another word about it. Still, since it was a life-saving service, he would not apologize or shrink from his duty. The physician's first laparatomy case was not likely to prove strongly recommendatory of drainage, because it was likely to be the worst case possible, one that had so far advanced that the woman was unable to travel and seek the advice of an expert. Occasionally a man criticised Dr. Price, saying that within five years he would be found as strongly on the other side as he was then on the side of drainage. But more than the first five years had passed, and he thought even more of drainage than formerly. There could hardly be better evidence of the advantages of

abdominal surgery than in Spencer Wells' own experience, and in the Samaritan Hospital during and after his connection with it, although Wells himself was by no means a warm advocate of it.

In his opinion, the man who condemned drainage must be doing a number of operations which should not be done. The class of cases which came under his care were usually severe ones; very commonly pus was present in most of them; indeed, there was no other way for saving the patients except by washing and drainage, with a view to establishing perfect cleanliness. If drainage were taken from him, his hands

would be stayed from pelvic and abdominal work.

It did not follow, however, that they drained everything. Where one found a healthy peritoneal cavity and removed something healthy, there was no necessity for drainage. in cases of escaped pus, or where the entire pelvic peritoneum had to be separated, or where there was such disease that peritoneum could not be recognized, where tubes distended with pus to the size of sweet potatoes were removed, one must drain in order to save the patient. He knew too well that men were in the habit of calling these hopeless cases and of closing the abdomen without drainage, and they gave as an excuse for the loss of their patients the very hopeless condition. An instance where drainage was not necessary was seen in the Porro operation, which he had performed successfully on six consecutive cases. One found a healthy uterus in a healthy pelvic cavity, and there was no necessity for drainage. In operations for healthy, unruptured cysts, hysterectomy without adhesions, and all forms of healthy tumors, there was no necessity for drainage

Dr. H. J. Boldt, of New York, said he had treated cases with escape of fluids other than pus into the peritoneal cavity, and cases of ruptured ectopic pregnancy, both with drainage and without, and they had gotten well under both methods. When there was escape of pus he used the drainage tube, the glass tube being much the best. But where there was a large bleeding surface, where adhesions had been torn and there was much oozing, the gauze was far superior. The question of whether recovery would take place without drainage, where fluid had escaped or had been present in the peritoneal cavity, depended upon its nature and whether it could be ab-

sorbed by the peritoneum.

#### REMOVAL OF THE UTERINE APPENDAGES FOR HYSTERO-EPILEPSY.

Dr. H. J. Boldt presented a paper in which he related ten cases, drawing from them the following conclusions: That there were some cases of hystero-epilepsy which were absolutely cured by removal of the uterine appendages, but in

them the symptoms and the examination pointed directly to the adnexa as the cause of the epileptoid fits. He formulated. as an indication for the removal of the appendages for the cure or improvement of hystero-epilepsy, the following proposition: That all other treatment generally employed for the relief of epilepsy should have proven negative; that the patient's condition should have become gradually worse; that such pathological changes existed in the pelvis as could be readily ascertained, and that the fits evidently had some relation to such diseased condition and to menstruation. But if an operation were to be made without gross evidence of disease in the adnexa, it should be undertaken only in cases where the epileptoid fits were brought on during palpation of the ovaries, and where they were worse during the menstrual period. Further, all other causes must have been eliminated, the patient must have long been under the observation of the gynecologist, and a consultation must have been had with a neurologist. All the conditions and possible and probable results should have been previously stated to the patient in the presence of witnesses, and one should not undertake the operation unless he could assure the patient of that probability of recovery from the operation itself which was based on a large personal experience in abdominal surgery.

# TRANSACTIONS OF THE NEW YORK OBSTETRICAL SOCIETY.

Meeting of February 2d, 1892.

The President, CLEMENT CLEVELAND, M.D., in the Chair.

CURETTING THE UTERUS FOR ACUTE GENERAL PELVIC PERITO-NITIS FOLLOWING ABORTION.

Dr. W. R. Pryor presented specimens from a case of left hydro-salpinx and right salpingitis, and narrated the history of the case, in which he had curetted the uterus for the relief of acute peritonitis. This was, in fact, a supplementary report to the paper which he read recently on this subject. He was called in August to see a patient one week after an abortion at two and a half months. He found her with a pulse of 116, temperature 102.4°, the abdomen tympanitic and tender. She was stupid with morphia and vomiting a greenish fluid. Examination showed the uterus to be ante-

flexed and tender, and firmly fixed by plastic material. discharge from the vagina consisted of blood and pus. He made a diagnosis of general pelvic peritonitis from septic endometritis, the latter still continuing in a purulent form. The patient at first refused an operation, but, finding the symptoms remained unabated, she gave her consent four days later. The uterus was at once thoroughly curetted and then packed with iodoform gauze, and the patient was well in two weeks. After the uterus had become quite movable and nearly all tenderness had disappeared, she was discharged. At this time examination showed a firm band of adhesion between the rectum and the fundus of the uterus, and other adhesions were probably present. She returned in November with slight enlargement of the abdomen and a mass on the left side and directly behind the uterus. Ten days ago he had removed the specimens which he now presented. The sutures were removed yesterday, and primary union had taken place notwithstanding the fact that the patient had got out of bed the day after the operation. He had been considerably criticised for operating in this way during acute pelvic peritonitis. If he had done a primary laparatomy in this case there would have been a mass of adherent intestines and the operation would have presented few chances of success; and if it had been let alone altogether he thought the plastic material would have become purulent and the case would have almost certainly terminated fatally. curetting cut off the supply of sepsis, and the wonderful absorptive properties of the peritoneum removed most of the lymph. At the last operation some bands of adhesion were found measuring at least six inches in length, showing the extent of the original peritonitis.

Dr. W. M. Polk thought there was no need of fearing the results of such treatment as that adopted in this case of peritonitis, and there should be no question about the advisability of opening the abdomen, if necessary, after the curetting, and treating the peritonitis by drainage. He had done this in certain cases with most excellent results; after packing the uterus with gauze, he also filled around the abdomen and Douglas' cul-de-sac, and the region behind the broad ligament, with the gauze, thus securing drainage both from the inside and outside of the uterns. It was the best treatment short, of extirpating the uterus itself, and, although this was the ideal procedure, it was accompanied by so much shock as to make it extremely hazardous for the patient. always packed the gauze in a solid column up through the abdominal incision; if need be, he would leave an opening of three inches in the abdominal wall for the passage of the gauze. It was a great mistake, in his opinion, to pack thoroughly with gauze and then leave only a small abdominal opening.

SUPPLEMENTARY REPORT ON A CASE OF PAPILLOMA OF THE OVARY.

The President said he desired to add a few more details to his report on the specimen of papillomatous growth presented at the last meeting. His patient had done very well since then, with the exception of a slight rise in temperature. At the time of the operation, on account of much oozing of blood from the pelvic surface, he had packed the cavity with eight ounces of iodoform gauze, bringing the gauze out through the abdominal incision, which was left open for this purpose for about two and one-half inches. As was his custom in other cases, he had employed for ligature No. 8 catgut. He had brought the specimens again chiefly because they had been cut open and showed that the papillomatous growth had broken through the cyst wall.

THICK-WALLED MULTILOCULAR CYST OF THE RIGHT OVARY.

The President also presented a specimen illustrating this condition. The patient, Ella F., 23 years old, single, was admitted on January 5th, 1892. Her first menstruation occurred at the age of 14, and the last period on December 29th. Menstruation had always been regular, recurring every twentyeight days and lasting from six to eight days, the flow being quite scanty but without pain. She had had a great deal of leucorrhea and was troubled by frequent micturition. About three months ago a tumor was discovered in the abdomen, which, however, only caused slight discomfort. One month later she was confined to her bed for one week with severe pain in the right side. For the past three weeks she has been extremely nervous. At the time of operation the largest measurement of the abdomen below the umbilicus was twentyseven inches; the distance from the umbilicus to the pubes, eight inches. The patient was etherized and the incision in the abdomen made five inches in length. A thick-walled multilocular cyst of the right ovary presented itself, and by means of the trocar its contents—consisting of about one quart of straw-colored fluid-were evacuated. The tumor sac was then removed, along with the smaller cyst attached to it. A catgut ligature was applied to the pedicle, and, as the stump was quite near to the uterus, it was deemed safer to sear the stump with the actual cautery. The stump was then dropped back into the abdominal cavity and the abdomen closed with ten silkworm-gut sutures.

The patient had been seen at the hospital before operation

by several physicians, who had united on a diagnosis of cyst with possibly also a fibroid, one of the gentlemen inclining to the opinion that the case was complicated by pregnancy. As the tumor had been laid open, it was easy now to see the large mass which had been taken for the fibroid, and which was merely an accumulation of small cysts which in time would probably have developed into larger ones.

# MULTILOCULAR CYST OF LEFT OVARY; FIBROIDS IN THE PEDICLE AND IN THE UTERUS.

He also presented a similar cyst of the left ovary accompanied by several fibroids. The specimens were removed from Kate F., 43 years of age, single, who was admitted to the hospital January 5th, 1892. She first menstruated at the age of 14, and her last period occurred on July 17th. She flowed during this entire month, but had seen nothing since then. Up to this time menstruation had been perfectly regular, recurring every twenty-eight days, the flow lasting from seven to ten days, profuse and without pain. She always had leucorrhea; this has been worse since last summer, and she has also suffered since then from frequent micturition. Last August she began to complain of lancinating pain in the left side, which has been more or less constant since then. The abdominal swelling was first noticed shortly before this and has steadily increased in size, the largest measurement just below the umbilious having reached thirty-four inches, and the distance from the umbilicus to the pubes ten inches. The operation was begun by an incision three inches in length, and a large multilocular cyst of the left ovary presented itself. Only one or two adhesions were found. A trocar was inserted and several quarts of thick, grayish fluid evacuated. The abdominal incision was then enlarged sufficiently to admit of breaking up smaller cysts, after which the tumor was everted. The pedicle was about four inches wide and quite thick. It was secured by a catgut ligature and treated with the actual cautery as in the previous case. A smaller fibroid tumor about the size of a hickorynut was cut away from the base of the pedicle, where it was situated about one and onehalf inches from the uterus. Two other fibroid tumors were found connected with the uterus itself, the one on the right side being pedunculated and about two inches long and one and one-half inches thick; the other fibroid was sessile and situated behind the uterus and filling up the entire pelvic cavity. The right ovary was healthy. The abdominal cavity was washed out with hot water and then closed with eleven silkworm sutures.

It was rare to find such a tumor as the one situated in the pedicle in this case, and he could only account for its presence

in this situation by supposing that it had originally been a small fibroid of the uterus, which with the growth of the tumor and pedicle had been drawn away from the uterine body. The profuse hemorrhage which occurred last July could be accounted for by the presence of the large fibroid behind the uterus.

He desired to call attention to the manner in which these eystic tumors were prepared by the pathologist, Dr. Freeborn. After emptying the cysts of their fluid contents, they were injected with a fluid containing one to five per cent chromic acid and one to four per cent acetic acid.

Dr. Malcolm McLean presented a

PAPILLOMA OF THE LEFT OVARY WITH VERY DENSE ADHESIONS.

The patient, Mrs. H., 35 years of age, married, had had one child five years ago. She gave a history of having suffered for two and one-half years with general pelvic pains, with quite severe dysmenorrhea and rather profuse menorrhagia. About one year ago she applied for treatment, and at that time complained more of severe pains in the pelvis. She was subjected to a thorough examination under ether. The abdomen was found to be distended with a symmetrical tumor, corresponding to the body of the uterus and feeling exactly like a pregnant uterus. It extended to a point about two inches above the umbilicus. It was quite hard, but not so dense as are many fibroids. No fluctuation could be detected, and its surface was smooth except at one point high up on the right side where a nodule about one and one-half inches in diameter could be felt adherent to the larger mass. Neither tubes nor ovaries could be felt through the vagina. Pregnancy being excluded, he felt justified in passing a hard rubber flexible probe, and, although this was introduced with the utmost gentleness, he was surprised to find it go in to the depth of eight inches. A diagnosis of probable interstitial fibroid was made, and a course of electric treatment was recommended. This treatment was carried out with more or less regularity for a period of seven months, at the end of which time the tumor had been reduced so much that its highest point was two inches below the umbilieus and the pressure Three months symptoms had been almost entirely relieved. later, however, she returned with the abdomen larger than at first, being then about the size of an eight months' pregnancy. There was much abdominal tenderness and her distress was extreme. Two weeks ago it was found that the abdominal eavity was so filled with fluid that it interfered with palpation. In the vagina there could be felt a rough mass crowding down behind the uterus. This was believed to be a papillomatous

growth, and it was decided to perform laparatomy. On January 21st this was done, the abdominal incision being three inches in length. A large quantity of straw-colored fluid was evacuated, but no tumor appeared until the omentum had been pushed well to one side, and then a tumor of the left ovary, about as large as a good-sized cocoanut, presented itself, and attached to it was a large papillomatous mass, which was the one felt through the vagina, behind the uterus and under the sheet of adhesion, so thick and vascular that at first he despaired of being able to remove it. He had never encountered such troublesome adhesions before, yet, after entting away as much as possible of the cyst, he discovered behind this adhesion another tumor fully as large, and subsequently he found that the mass in Douglas' pouch could be displaced without disturbing this band of adhesion. It was then found that quite a satisfactory stump had been secured, and it was treated in the usual way, no fragments of papillomatous growth being left behind. In tearing through the large sheet of adhesion he came down upon another tumor, large, round, and very smooth, like the mass which had been felt at the first examination of the patient under ether. Less difficulty was experienced in removing this one. He packed with gauze and put in the drainage tube alongside of it, not only for the purpose of securing anterior drainage, but also because it was his custom in many of these cases to use a mirror as an aid to examining the condition of the parts. With a mirror as his guide, he found, on the fourth day, the tissue well organized about the tube and enclosing the dressings as far as could be seen, and accordingly the iodoform gauze was removed. case has so far progressed very favorably. He thought much more could be done for these papillomatous eases than was usually expected; and notwithstanding the desperate nature of the operation, his patient's recovery had been uneventful. He could not account for the subsidence of the tumor, as a careful examination had been made by several competent persons, and the tumor found at the operation was certainly four inches lower down than the one found at the examination; yet these tumors could never have been above the point where they were found, as the adhesions holding them in place were very old and firm.

Dr. J. E. January presented specimens of

DOUBLE CATARRHAL SALPINGITIS; ABSCESS OF THE RIGHT OVARY; OLD HEMATOMA OF THE LEFT OVARY.

The history was as follows: Mrs. T. S., 26 years of age, married four years, mother of two children. She suffered severely from dysmenorrhea and from continual pain in both

ovaries and tubes. She was examined on December 26th. There was considerable endometritis present. Both tubes and ovaries were enlarged and bound down with exudation, and there was extreme tenderness over both ovaries. There was also found a large exostosis of the upper portion of the promontory of the sacrum. On December 29th the ovaries and tubes were removed by a laparatomy. The right ovary was found to be slightly enlarged and was the seat of a small abscess. The tube was only slightly enlarged, as the result of catarrhal inflammation. The left ovary was moderately enlarged, and in its centre was a whitish, firm clot of fibroid, about the size of a lima bean, evidently the remnant of a small hematoma. The tube on the other side was nearly six times its normal size, although its lumen was but slightly increased. This was probably also the result of catarrhal inflammation. Both tubes and ovaries were found to be bound down with firm adhesions, the left one being firmly adherent to the sigmoid flexure. The abdominal cavity was flushed with hot water, and as there continued to be some oozing of blood from the torn adhesions, and the bleeding points could not be ligated, the cavity was packed with iodoform gauze. The quantity of bloody serum which was drawn away by the gauze during the week following the operation was something enormous. The gauze was removed in three pertions—on the sixth, ninth, and twelfth days respectively. A very small sinus still remains, thirty-three days after the operation. The case was interesting, not only on account of hematoma, but on account of the large quantity of bloody serum removed by the gauze packing. It was also interesting to note that, notwithstanding the large exostosis on the sacral promontory, two living children had been born in the past four years.

#### A PAPILLOMA SECONDARY TO INTRALIGAMENTOUS CYST.

Dr. E. B. Cragin said that, in connection with the papillomatous specimens presented by the President, it might not be uninteresting to relate a case which he had seen last summer and which he considered to be a later stage of the same condition. One year before the patient had had an intraligamentous cyst removed from the right side by Dr. Tuttle. Last summer she returned with a mass in the abdomen as large as the original one, doughy and fluctuating, extending above the level of the umbilicus. On opening the abdomen he found a large mass, about the size of the papillomatous specimen just presented, which was very friable and which bled with the slightest touch. The wall of the mass seemed to be formed by fibrinous peritoneal bands and coils of the intestines. The abdomen became filled with blood during the operation, and, as he was unable to check the bleeding by

the usual measures, he felt compelled to amputate the uterus. The patient made a good recovery. He saw her yesterday and found she had gained about forty pounds, but there was a mass on the right side which was either a recurrence of the papilloma or a mass of adherent intestine. It would be interesting to know what was the origin of this papillomatous mass. Was it from the spilling of some of the fluid during the first operation, or was a small piece of the cyst wall accidentally left in at that time?

SUPPLEMENTARY REPORT ON REMOVAL OF THE TUBES WITHOUT BOTH OVARIES.

Dr. W. M. Polk said he desired to present a supplementary report on two cases which had been operated upon by him about a year ago, and which had been reported in The American Journal of Obstetrics for September, 1891. The tubes had been removed in these cases, but only one ovary. In two of these cases the ovaries removed contained pus and the third one a large hematoma. These three cases were operated upon at about the same time. Two of them were robust women; the other one was a rather neurotic subject, in other respects healthy. The results in all three cases

were good. The first case was that of a Swiss woman, who, since the operation, has menstruated. This function has been somewhat less active than before the operation. She has been free from pain, and the uterus is only slightly smaller than The genital organs appear to be in good condition. The second case was that of a Russian, who had done well, except that about eight weeks ago she menstruated profusely, and an examination showed that the uterus was of normal size and that the hemorrhage was dependent upon fungosities. These were removed. Since then she has done well. There is nothing of special interest in connection with the three eases, except to report that menstruation has not been so profuse as formerly. All of these women are free from pelvic pain and are able to attend to their household and marital duties.

The question of leaving the ovary in place is one which is as yet debatable, but it appeared to him that where it is not desirable to produce an artificial menopause one is justified in leaving the ovary, that the beneficial function of ovulation on the system in general may continue. The effect of castration on the genital organs in young women is well known, and if these women are married it not infrequently becomes a source of unhappiness. It is not a question of deprivation or involvement of the sexual sense, but rather pain incident to the necessary atrophy following the removal of these

organs. Considering the mental effect on some women from depriving them of the function of ovulation, it is evidently our duty to maintain this function, even at some risk. The cases just reported by him showed that this could be done.

Dr. Pryor asked if these patients had skipped their men-

strual periods.

Dr. Polk replied in the negative, and said that in connection with this portion of the subject he desired to refer to another case, that of a young woman 25 years of age, upon whom he had operated one year ago, removing the left tube and ovary. There was a sharp attack of peritonitis, originating from the tube which had been left in situ, and finally her pain became so excessive that she returned to him. He found, on opening the abdomen one week ago, that her pains were really dependent upon adhesions of the omentum to the top of the uterus and the right Fallopian tube and ovary. She had only menstruated once in a year. The ovary on the right side had entirely disappeared, excepting a small cyst which ruptured during the necessary manipulations of the operation. The inflammatory adhesions had surrounded this ovary, and in contracting had destroyed it and abolished the function of menstruation.

#### DIFFERENTIATION OF CELLULITIS FROM PERITONITIS.

Dr. J. R. Goffe said he desired to report a case which was interesting from the fact that it brought up the point of differentiation between cellulitis and peritonitis. About two months ago he had operated for the removal of a pus tube on one side and a cystic ovary on the other, and had presented the specimens to the Society. The patient did well after the operation, and left the hospital four weeks later. Shortly after this she was exposed to the inclemency of the weather, and, according to her story, "caught cold." At any rate, the bladder became irritated and she suffered from pains from the pelvis down the right leg. Examination showed a slight exudate to the left of the uterus and reaching across and in front of it at about the point of attachment of the bladder to the uterus. The mass was hard and rather sensitive upon moving it or the uterus. She was directed to keep quiet and use hot douches. After about one week she returned, and it was then found that the exudation had extended across the pelvis to the other side, so that there was then a hard mass forming a firm roof to the vagina and reaching down upon the left side almost to Poupart's ligament. Pressure made near the left groin produced an impulse which could be felt down in the vagina and across to the right side. The fact that the

34

exudation was at first quite limited, and that it extended gradually, had led him to think that it might be one of the following conditions: first, a pelvic peritonitis involving the whole of the peritoneum; secondly, a general cellulitis with exudation into the cellular tissue; or, thirdly, it might be one of the small blood vessels had slipped its ligature, with the result of causing a hemorrhage into the tissues and the formation of a hematocele in the cellular tissue. He was watching the case carefully for any sign of softening in this tissue. She had suffered almost constantly from pain and was confined to the bed. Temperature had ranged between 99° and 100° F.

Dr. Polk asked if the precise position of the uterus had been determined by means of the sound. His reason for asking this was that where there is such an extensive exudate behind the uterus this organ will be pushed forward and downward, the exudation causing the anterior face of the broad ligament to closely hug the region of the bladder, producing a condition simulating the exudation between the uterus and the bladder. Under these circumstances the exudate appears to be continuous, from the paravesical fossa on one side to that on the other, it being nearly on a level with the anterior uterine wall, and the uterus being, as it were, encased in this new tissue. He had found in these cases that he could not tell whether he was dealing with an exudate or with an anterior uterine wall until he had properly located the uterine body by means of the sound. It had been said that the exudation between the uterus and the bladder proved the condition to be a cellulitis and not a peritonitis. All of us had undoubtedly met with cases in which the Fallopian tube and ovary had been found on the anterior face of the broad ligament. In one of his cases of tubercular peritonitis, the exudate, although intraperitoneal, was between the uterus and bladder, in exactly the position which we are told a cellular exudation occupies. He had also found sometimes in secondary operations the omentum in the mass behind the uterus and vagina.

Dr. Goffe said that he did not pass a sound in his case, but the exudate was so thin that it felt like a disc completely surrounding the uterus, just at the junction of the body. It could not be felt posterior to the uterus, but only on both

sides and in front.

Dr. Pryor thought it would be found that the omentum was the cause of the condition in the case just reported. He had had the opportunity of examining it with Dr. Goffe, and had first thought it was a case of cancer or of tubercular peritonitis, and he now believed that it was due to adherent omentum.

## Dr. R. A. Murray read a paper entitled

GONORRHEAL VAGINITIS, ITS COMPLICATIONS AND TREATMENT.

Pathology, the author said, showed why certain methods of treatment were successful, and had also shown that complications in many diseases were nothing but direct extensions of the original disease by continuity of tissue, due to the absorption of germs by the lymphatics. He did not think that the same success which had followed attention to cleanliness in antisepsis in abdominal surgery had been obtained in the treatment of the condition which he had chosen for the subject of his paper. In fact, the failure of the usual method of treatment was snown by the frequency with which abdominal operations were required for the relief of the conditions due to the extension of the disease to the uterine appendages; the disease being usually introduced at the vulva, it is natural that it should excite a vulvitis, an inflammation of the ostium vaginæ, of the glands of Bartholini, and a urethritis. He considered it exceptional for the virus to be first introduced into the upper part of the vagina. In from a few days to a week the whole of the vagina, from the ostium to the cervix, is involved in the disease, and, if not properly treated, endometritis occurs and extends to the Fallopian tubes, causing a catarrhal or purulent salpingitis with more or less peritonitis, resulting in pelvic exudations and adhesions.

He had found that the inflammation of the endometrium was most rapid and most frequent when the infection occurred shortly before or immediately after menstruation, and at such times the attacks were more severe. In many cases the pain and abdominal tenderness denoting the involvement of the tubes and ovaries did not make their appearance until the next menstrual period. The late Dr. Budd had called the writer's attention to the fact that where peritonitis and salpingitis from gonorrhea existed on one side of the pelvis before menstruation, at the following menstrual period the other side would become involved, thus extending the disease. That general peritonitis does not more frequently result can only be explained by the protecting influence of the perito-

neal adhesions in the pelvis.

Gonorrheal vaginitis is very apt to become chronic. While the vaginal discharge, tenderness of the vulva, vagina, and urethra, are the symptoms, we should not forget the gravity of the disease, and should strive to prevent its spread just as we would endeavor to do in case of sepsis. There can be no objection, in the female subject, to the use of bichloride of mercury solutions 1:5,000 or 1:10,000, or of carbolic acid solution 1:100, or a saturated solution of boracic acid or other astringents which have germicidal properties.

The following plan of treatment had given him much satisfaction. The woman, if possible, should be kept in bed, and salol and an alkali administered internally for the relief of painful micturition. A lotion of bichloride solution 1:5,000 is used for bathing the outer parts and for injecting into the vagina three or four times a day for the first three days. After this the strength is reduced to 1:10,000. If this injection be painful earbolic acid solution is substituted for it. The injections should be taken with the patient in a recumbent posture. About the third day a speculum can be used and the cervix exposed to view. The parts may then be swabbed with strong carbolic acid or with a solution of bichloride of mercury, and this followed by dusting the parts with powdered iodoform. Later on a five-per-cent solution of nitrate of silver may be painted over the cervix and vagina, and the vagina tamponed with iodoform gauze so as to separate its walls, the ends of the tampon being brought down to the vulva. If these are changed every two days the discharge will usually cease within a week or ten days. Before discharging the case as cured, never omit to examine the glands of Bartholini, and if any pus can be made to exude from them you may rest assured that the disease has not been eradicated. They should then be incised under cocaine anesthesia and touched with strong carbolic acid. If there be purulent discharge from the cervix and the Nabothian glands are distended, curette them and apply pure carbolic acid, using the iodoform tampon to prevent reinfection of the vagina.

The foregoing is an outline of the treatment which the author had adopted and which he found shortened the course of the disease and prevented relapses. He had tried dry packing, the use of simple astringents, etc., but they did not prove satisfactory. Where there is a subacute gonorrhea, such as frequently follows lighting up of old gleet in the male, the speculum may be used from the outset and the cervix thoroughly cleansed, as it is usually patulous. Strong carbolic acid or a solution of nitrate of silver may be applied to it and to the vagina, followed by weak bichloride injections. If there be a muco-purulent, acrid discharge from the cervix, indicating involvement of the endometrium, and if the endometrium bleeds freely when touched with the applicator, strong carbolic acid should be applied to the interior of the uterus. If there had been slight tenderness in the ovaries and tubes before this application, it would frequently promptly disappear if the application were followed by hot injections. did not deny that a catarrhal vaginitis, apparently quite severe, might be caused by a dirty pessary, by cold, or by chemical irritants, and yet recover promptly with the use of ordinary astringent injections; but such fortunate results were

infrequent and only served to demonstrate the necessity for some antiseptic treatment, as in the specific cases.

Dr. Polk.—The treatment described in the paper seemed to leave nothing to be desired, except it be as to his method of securing back drainage from the interior of the uterus. It was a matter of routine practice with him to treat all cases of gonorrhea in very much the same way as the author had described, but, as all of these cases had some endometritis, he invariably etherized the patient and thoroughly dilated the cervical canal from the internal os down, and washed out the inside of the uterus, and, if necessary, curetted it. The uterus was again irrigated with 1:2,000 bichloride of mercury solution, this agent being one which he preferred above all others. He then introduced a gauze packing into the cavity of the uterus on precisely the same principle as the author used it in the vagina. It was surprising how easily this could be done, even in the virgin uterus, for the patulousness already alluded to as existing at the external os exists also at the internal os. Whether the irritation at the interior of the uterus be gonorrheal or puerperal, he was convinced it should be treated radically, and if such treatment were generally adopted there would be in a few years fewer opportunities for the removal of diseased tubes and ovaries. His results had been satisfactory, not only as regards immediate cure, but as regards the prevention of tubal inflammation.

Dr. Goffe thought the author had struck the keynote in the treatment of gonorrhea when he insisted that it should be actively treated from the very first, in view of the probable terrible consequences if this be neglected. He could not insist upon this too vigorously. The old point of differentiation of diagnosis between simple and gonorrheal vaginitis—viz., that in the gonorrheal form you could squeeze pus out from the urethra, but not so with the simple variety—was a teaching that should be speedily abandoned and forgotten. The only true test now was the presence under a microscope of gonococci. He had adopted the method described by Dr.

Polk and had found it most efficient.

Dr. Joseph Brettauer said that we must consider the vulva and vagina as the gate through which the disease enters, and therefore we should treat this portion more energetically than had been advocated in the paper. He had had some experience with the method about to be described, using it after the acute symptoms of the first two or three days had subsided. The vagina is syringed out with a 1:1,000 solution of bichloride of mercury, and a speculum, consisting of two retractors, one for the posterior and one for the anterior vaginal wall, introduced. A tampon covered with equal parts

of powdered iodoform and tannin is then inserted. Sometimes the speculum is taken out and the whole vagina rubbed over with these mixed. It was not likely that we could reach the gonococci by simply dusting some iodoform powder into the vagina, and then packing with gauze. The iodoform and tannin powder remains suspended in a little of the liquid left in the vagina, and in this way it reaches every fold. After making three or four such applications, it will usually be found that the redness and tenderness have greatly diminished, and a microscopical examination of the discharge will also show a marked diminution in the number of gonococci.

The author had spoken about the use of salol for the relief of painful micturition. He had seen excellent results follow the use of methylene blue, in doses of one decigramme three times a day. Usually on the second day all pain had disap-

peared.

Dr. A. H. Goelet said that he had adopted a very simple plan of treatment in this class of cases, which had given him much satisfaction. It consisted in using a suppository of cocoa butter containing ten per cent of salicylic acid, the patient being directed to introduce one of these suppositories as high up as possible every night. He had yet to see a case which had not yielded to six of these suppositories, and it was seldom that more than four were required. The introduction of the suppository is preceded by a cleansing douche. The salicylic acid causes a complete exfoliation of the sufface of the vagina, which leaves it perfectly clean and not liable to subsequent contamination. Where the endometrium had become involved and the os was patulous, he thoroughly cleansed the vagina and then introduced a pencil of cocoa butter and salicylic acid into the uterus, retaining it in position by a simple absorbent tampon, which the patient was directed to remove at night and then introduce the vaginal suppository.

With regard to the internal treatment, he wished to say that salol had not proved satisfactory either for the relief of tenesmus or for the urinary irritation, but oil of wintergreen, in doses of ten drops every three hours, had given speedy

relief.

Dr. Pryor said that at one time, when he was connected with a large venereal clinic, he had considerable experience in the treatment of gonorrhea. Some of the cases coming to him at that time were so severe as to produce severe ulceration on the thighs of the patient. In these cases he had tried the usual applications and found them of no avail, and even painting the vagina with the ethereal solution of iodoform proved ineffectual. No method seemed to answer which did not entirely smooth out all the folds of the

vagina. Accordingly he packed the vagina as firmly as he would do to control hemorrhage, using for this purpose a gauze moistened in 1:3,000 bichloride solution, and then sprinkled with powdered iodoform. Two or three dressings were sufficient to control the most virulent form of vaginitis.

He made it a rule in all cases, no matter what the diseased condition, to change such dressings as often as they became

saturated with the discharge.

When there was an infection of the endometrium, he did not believe in applying pure carbolic acid to it, for this produced a slough, although by the usual methods of application carbolic acid did not usually reach the endometrium in its purity. If the endometrium be inflamed or the seat of septic inflammation, it should be treated by an operation. He had already reported to the Society a case of gonorrheal endometritis cured by curetting and the use of carbolic acid. Gonorrheal endometritis is not always preceded by vaginitis, the vagina often being more tolerant of septic poisoning than the endometrium. For the relief of dysuria he had found nothing better than Dr. Keyes' prescription of thirty grains of citrate of potash, given in a little syrup and water every two or three hours, the object being simply to render the urine alkaline and unirritating. Dr. Wylie had said it was impossible to dilate the virgin uterus to the extent of half an inch without rupturing it. This might be true with Dr. Wylie's dilator, which is bent nearly at right angles; but with a straight-bladed instrument, which admitted of being turned around in different directions, full dilatation could be secured and the finger introduced for examination at one sitting.

The President said that he considered packing the vagina the ideal treatment, and asked whether Dr. Pryor did not consider that the bichloride was a sufficient germicide without the

iodoform.

Dr. Pryor said that he did not think the bichloride alone was sufficient, because its germicidal action was comparatively feeble when it was brought in contact with albuminoid secretions; and although in test-tube experiments iodoform might fail to show powerful antiseptic properties, when brought in contact with living tissues it certainly was a more powerful antiseptic than bichloride of mercury. He used the bichloride simply to cleanse the gauze. In the treatment which he had described he relied upon the absorbent action or the curative properties of iodoform.

He suggested that electricity would be a good agent to use in the treatment of gonorrhea, as a mild current was suf-

ficient to destroy the gonococci.

Dr. Murray, in closing the discussion, said that he had tried the dry method, advocated by Engelmann, of St. Louis, in which bismuth, boracic acid, and similar powders were employed, and also had tried the method where the vagina was packed with salicylic acid, but he had not found any of them equal to the one which he had described. In the ordinary method of treating gonorrheal vaginitis pursued by the general practitioner, by the use of astringent injections, the vulvitis is neglected and the discharge is merely driven up towards the cervix. No germs are destroyed, and the injection merely acts as a cleansing agent. Sometimes the metallic salts contained in these injections simply coagulated the discharge without removing it from the vagina. He believed in dilating the uterus and treating the endometritis. There might, of course, be a conoidal cervix, with a discharge due to its being conoidal and not necessarily gonorrheal in its origin. He always dilated the uterus before using the carbolic acid, unless he found the os sufficiently patulous. He usually employed the bichloride gauze, and then dusted powdered iodoform over the vagina. Where bichloride gauze is used over iodoform, much of the unpleasant odor of iodoform is destroyed. He did not consider that the iodoform was an active germicidal agent, because where he had used it alone, simply for its sedative effect, he had not obtained anything like as good results as where it had been used in conjunction with the bichloride of mercury. He regretted that the discussion had not been directed more to the question of retention of gonorrheal matter in the glands of Bartholini, for it was a subject deserving careful study. These glands were frequently the source of contagion to the male during coition, and a frequent source of relapse. At one time in this city it was proposed that these glands, under such circumstances, should be excised. In case of gonorrhea in a virgin the os is not usually sufficiently patulous to allow the introduction of the finger, but is usually sufficiently open to permit the introduction of the applicator. He would not expect to be able to tampon the uterus with gauze in a virgin without previous dilatation. The main object of his paper was to show that it was possible by proper treatment of gonorrhea to prevent the subsequent mutilating operations now too often demanded.

# TRANSACTIONS OF THE NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Meeting of January 28th, concluded from page 386. ROBERT A. MURRAY, M.D., Chairman.

Dr. Virginia M. Davis read a paper on

THE PREVENTIVE TREATMENT OF MASTITIS. 1

Dr. Grandin thought the paper fully covered the points in accordance with what he believed to be the general usage in these cases. The author was to be congratulated on being able to give so good an account of her work. She was in an institution where he would suppose they ought to have a mastitis frequently, yet, as she had shown, it was very infrequent. Her statistics were fully as favorable as those of the Maternity Hospital, where he supposed more trained nurses were at command. He said that clean nipples and clean mouths would do a great deal to prevent mastitis. Second, prevent engorgement; and this, he thought, was best done by tight, equable bandage, which was superior to rubbing the As to drugs, he was exceedingly sceptical as to their value applied locally. Of course derivatives were useful. He would make one criticism: he would hesitate considerably to continue expression after he had obtained pus. He had seen a few instances where the pus could be nursed up by the infant. He was satisfied a deep incision was best practised.

Dr. Collyer thought the paper was very creditable to the The subject was one which the general practitioner knew little about, but should know much about. Formerly there were many more cases in the Maternity Hospital than since Dr. Garrigues had introduced compression by means of the bandage. While he believed expression of pus through the nipple would be possible in some instances, yet in others deep incision would surely have to be resorted to.

Dr. Charles Jewett said the presence of pus resulting in some cases would suggest at once a microbe and preventive measures. The nipples should be cleansed; they might be manipulated some toward the end of pregnancy, so as to get

<sup>&</sup>lt;sup>1</sup> See original article, page 473.

them used to what was to come; one should see that they were not cracked, and thus avoid an entrance for microbes. The baby's mouth should be kept clean. Stasis should be avoided, and he approved of the use of a bandage. Where abscess formed, an incision and drainage should be made and the cavity cleansed with peroxide of hydrogen.

Dr. A. H. Buckmaster referred to a case in which a surgeon in the country treated a woman with abscess of the breast many months, making many incisions. Abscesses continued to form, solely for the reason that he, as he believed was the case with many general surgeons, had failed to recog-

nize the necessity for pressure in these cases.

Dr. Elizabeth Cushier had relied solely on the bandage, without manipulation, where no break of the epithelium was

present, and the result had been very satisfactory.

Dr. Edgar gave statistics of 1,297 confinements, in only three of which mastitis developed with pus. Most of the women were discharged in nine or ten days. The preventive treatment had been very simple, carried out mostly by medical students: use of Garrigues' bandage, heat, and Rochelle salt; also attention to the condition of the nipples.

Dr. Agramonte thought belladonna had some value applied locally, in spite of the scepticism of Dr. Grandin. He also said he had recently seen a case where he hesitated to

use compression on account of phthisis and la grippe.

DR. MURRAY did not think the bandage should assume anybody's name, for it had been used a long time—for instance, in Bellevue many years ago. He applied it, not with the idea of exerting compression ordinarily, but to hold up the breasts and thus prevent stagnation by sagging.

Dr. Davis closed the discussion, and said she also recognized some value in belladonna in certain cases. The paper

covered other points in the discussion.

# Meeting of February 25th, 1892.

ROBERT A. MURRAY, M.D., Chairman.

Dr. J. Schmitt read a paper entitled

FLOATING KIDNEY AND DISEASES OF THE GENERATIVE ORGANS
IN THE FEMALE.

Under favorable circumstances the lower end of the normal kidney can be palpated. The patient should lie on the back or sound side, with the hips and knees well bent; then on pressing one hand beneath the free border of the ribs and

making counter-pressure with the other hand over the region of the kidney posteriorly, allowing the patient at the same time to take in a deep inspiration, the lower end of the normal kidney can usually be felt, provided the walls are thin and relaxed. During inspiration the kidney slips downward, and if held can be prevented from slipping back during ex-

piration.

From simple loosening of the kidney to its lodgment in the pelvis, all degrees of displacement may occur. In more advanced cases of movable kidney the organ is found in the iliac fossa or at the promontory of the brim. Sometimes the kidney can be felt at one time, while at another examination in the same manner we may not be able to palpate it. In this event it was well to examine the patient in the sitting or

standing posture.

The following are symptoms which may be present in movable kidney: A dragging sensation in the back; pain in the hypochondriac and lumbar regions, which extends up to the shoulders or down the pelvis and thigh corresponding to the side of displacement. Bodily exertion aggravates while rest and lying on the side relieve the symptoms, at least in the first stages. Digestive disturbances are very common, varying from a feeling of oppression, nausea, and vomiting to the most violent cardialgia. The traction and pressure upon nerves give rise to manifold nervous disturbances. Gradually the whole complex of hysterical symptoms and mental derangements may be developed. The movable kidney exhausts the nervous system, as do certain uterine and ovarian diseases. In certain persons, however, movable kidney produces no symptoms at all, in others there may be a single disturbance, while in still others there may be the entire series of hysterical symptoms. The same thing is observed in sexual The author enumerated some of the symptoms common to movable kidney and certain disorders of the generative organs. He thought certain cases of retroflexion, prolapsus, cystocele, rectocele, and also chronic inflammation of the uterus and ovaries, had a like etiology and similar symptoms to movable kidney.

As to the etiology of movable kidney, many physicians ascribed it, especially when existing on the right side, to tight lacing; others placed more stress on the loss of fat which connected the kidney with the adjacent tissues. Continued coughing, straining in marked constipation, and other things leading the person to keep the diaphragm lowered, were likely to produce displacement of the kidney. Congenitally abnormal attachment of the kidney would predispose the organ to become movable. Not the same cause acted in all cases. On one point, however, a striking harmony of orinion

seemed to exist, namely, that women in whom the elasticity of the abdominal walls had been diminished either by tumors, laparatomy, or wasting diseases suffered comparatively frequently from movable kidney. The relation of movable kidney to loss of elasticity in the abdominal walls would be readily understood on recalling their physiological action. By their normal elasticity the walls were intended to meet the evervarying intra-abdominal pressure of the intestine and stomach. In loss of much fat, or conditions leading to diminution in the elasticity of the walls, the abdominal organs tended to fall and become displaced. Disturbed circulation and constipation further aggravated the condition. The diseases of the generative organs before named, which might depend upon lack of elasticity of the abdominal walls, did, as a matter of fact, frequently coexist with movable kidney. The perineum had also an influence, but not as great as the abdominal walls, for the elasticity of the perineum acted at a different angle.

Among other etiological factors were increased weight of the kidney from hydronephrosis, etc. Where the organ became very loose it might lead to doubling up and obstruction

of the ureter.

From these suggestions the author thought it was obvious that in the treatment of women the physician would be most successful who took into consideration not only the diseases of the genital organs, but also movable kidney, which might

depend upon the same causes.

Gynecologists had removed healthy appendages for the relief of hystero-epilepsy and other nervous affections, sometimes with success, sometimes with failure. The same thing could be said of movable kidney. There were no fixed rules by which the patient could be assured in advance that the operation would relieve her of her nervous disorders. should not undertake an operation without inquiring into every possible cause and attempting, by treatment which the method might suggest, to give relief without mutilation. Abdominal support by means of an elastic bandage at once suggested itself to the mind. Springs, plates, etc., to keep the kidney in place, were questionable. Exceptionally one met with women who were not benefited by the elastic belt covering the abdomen, and when treatment directed to the general condition failed nephrorrhaphy might be resorted to that is, the capsule of the kidney be incised and sutures passed, fastening it to the posterior wall. The elastic belt should, however, be continued.

The author presented two women with slightly movable right kidneys. In one a surgeon had removed one ovary for disease, but the movable kidney was overlooked. He said that, had the condition of the kidney been discovered, one

might just as well, going by the symptoms, have removed it

and overlooked the diseased ovary.

Dr. George M. Edebohls said that the proportion of women who came to him for advice who had movable kidney was about one to ten or twelve. The symptoms which he had found more generally due tomovable kidney were: Digestive disturbance; pain on the opposite side, usually the left, as it was the right kidney which was generally movable; cardiac palpitation. The cardiac palpitation was often the predominant symptom, and he believed that a number of cases of essential tachycardia were probably due to movable kidney.

As to the etiology, while he did not think intra-abdominal pressure played an unimportant part, yet he thought loss of fat about the kidney was a more influential cause, and the two were likely to work together. Movable kidney was oftenest seen in women who had lost twenty or more pounds in weight. He had observed that freely movable or floating kidney gave rise to less distressing symptoms than slightly movable kidney, and when the latter went on to become floating or markedly movable the symptoms were apt to become less severe. He related three cases. In one, symptoms disappeared on suturing fast the right floating kidney; the left kidney was not then movable, but afterward became so and the symptoms returned. In another case there was laceration of the perineum, also of the cervix, and uterine subinvolution, but after operating for these conditions the symptoms continued; then he fastened the right movable kidney, and the symptoms disappeared. He had not found much benefit from the bandage. As to nephrorrhaphy, the technique was of much importance, and the speaker described his procedure, which was more radical than that usually employed. After splitting the capsule he separated it from the kidney on either side half an inch, which left an extent of one inch of kidney tissue exposed from top to bottom of the organ; and then, on passing the sutures, sufficient granulation was insured to hold the organ fast.

Dr. A. F. Currier wondered that, in the enormous number of abdominal sections which had been made, movable kidney had not oftener been recognized, if it really existed in one

case out of ten.

Dr. Agramonte thought percussion should give some information as to movable kidney, at least when the organ was

much displaced.

Dr. Schmitt said, in closing, that he did not approve of the division of cases into movable and floating kidney, since floating kidney was only a degree of movable kidney. As to Dr. Edebohls' statement that the pain was usually on the opposite side, he had not found it so; sometimes it was on the opposite side, but more generally on the same side as the movable kidney. One symptom he had forgotten to mention—namely, aortic pulsation, which in some cases was well marked.

(To be continued.)

# TRANSACTIONS OF THE ALUMNI ASSOCIATION OF THE WOMAN'S HOSPITAL, NEW YORK.

Seventh Meeting, held in New York, January 19th and 20th, 1892 (concluded from page 374).

The President, E. C. Dudley, M.D., in the Chair.

Dr. A. Palmer Dudley read the history of

AN UNUSUAL COMPLICATION FOLLOWING LAPARATOMY.

The complication, he said, was one which he had never before known to occur in connection with laparatomy. Indeed, it had no direct connection with the operation, yet it would not have taken place but for the administration of ether.

The patient was a woman who had been an invalid for more than two years, and had been treated for gall stones by several physicians, but this diagnosis was shown to be erroneous by Dr. Janeway. While receiving local treatment she became pregnant and was delivered of a healthy child. During gestation and afterward the attacks of pain continued and she acquired the morphine habit. When she came under Dr. Dudley's observation, some weeks after delivery, he recognized pyo-salpinx, and operated December 14th. The pus tube on the right side was not large, and evidently had not been of long duration, while that on the left was as large as a sausage and stretched directly across the pelvis, the fimbriated extremity being attached to the promontory of the sacrum, other adhesions being to the colon, etc. The tubes were so rotten that they tore off at the uterus, and it was necessary to gouge out the horns of the uterus and close the openings by an over-and-over stitch. After removal of both tubes the pelvis was packed with iodoform gauze, the

end of a strip of gauze being drawn through the posterior

cul-de-sac into the vagina for through drainage.

The patient had taken ether badly; lungs secreted much mucus; she began to fight, and continued to fight until her death on the tenth day. There was no rise of temperature, though the pulse was fast; there was no intra-abdominal distention, no peritonitis; the wound healed by first intention. But from the time the patient was put into bed the lungs contained so much mucus and the heart beat so rapidly that it was thought there was hypostatic pneumonia. By the use of atropia, strophanthus, and digitalis the heart's action and the secretion from the lungs were controlled. It was not until the third day that the patient had a stool. On the fourth day the unusual complication referred to in the title of the paper appeared in the form of a puffy swelling on the neck, half-way between the jaw and clavicle on the right side. The swelling gave under palpation a crackling sensation. It disappeared, but on the seventh day the patient vomited violently, owing to drinking secretly warm water to slake excessive thirst which the medicine had caused, and following the vomiting there developed an emphysematous condition extending from the neck upward on the face, and later spreading downward, reaching as far as the hip. Dr. Abbe and others agreed with him that the emphysematous condition beneath the skin must have had its origin from an adhesion and rupture of the right lung, probably at an old pleuritic adhesion at the apex; and later the husband said that the woman had had a pleuro-pneumonia a year before and the attending physician had warned her of possible future danger from adhesions. The patient did not want an operation, and it was the tenth day before Dr. Dudley came prepared to operate, but it was then too late and the patient died some hours later. He asked whether it would have proven beneficial to have simply incised the skin and let the air which entered the lung pass out in that way. He also asked if it was likely the woman could, during a fit of violence, have torn the lung at the pleuritic adhesion without previous disease at that point. There had been no pneumothorax antedating the emphysema beneath the skin.

Dr. Nathan G. Bozeman exhibited an

IRRIGATING APPARATUS FOR USE IN VESICO-VAGINAL FISTULA.

It consisted of a closed vessel containing fluid (water), with two rubber tubes, one entering near the bottom of the vessel, through which the water flowed, the other near the top and above the fluid, through which air entered. The two tubes became one at a distance of some inches, the single tube then being interrupted at two or more places by a curve, preferably of bent glass tubing, through which the flow could be observed. At a distance of two feet or more the rubber tube contained perforations; this portion lay in the vagina, allowed the commingled fluid and air to enter, and then to flow out of the vagina through the distal end, which led to a bucket. The curves in the course of the tube maintained the siphon action, while at the same time both air and water became commingled at the junction between the two connections with the vessel. The irrigator was specially valuable in cases of vesico-vaginal fistula, and might be used, for instance, an hour in the morning and one in the evening.

Dr. Hanks said he had seen one patient make use of this irrigator during the past summer with the greatest satisfaction.

Dr. A. H. Buckmaster exhibited a pair of

SCISSORS FOR CUTTING BURIED WIRE SUTURES,

one blade of which was curved, pointed, yet somewhat blunt, and being pressed beneath the wire it could be readily divided. A gentleman in the country had devised it, whose name he could not recall. Other instruments were in the market which could be used for the same purpose.

Dr. Buckmaster presented an

#### ANTISEPTIC POCKET LIGATURE JAR

which he had worked upon the past two years and had finally completed to his satisfaction. It consisted of a hard-rubber cylindrical jar and top which screwed together, a spool cylinder of similar material fitting crosswise in the jar, on which the ligature was wound. The end of the ligature passed through a tightly fitting rubber cork at the top. The whole was compact, very light, and carried more ligature than the Hanks glass vessel or any similar mechanism. The jar was unaffected by bichloride solution 1 in 50. It was air-tight, and if desired could be closed, submerged in fluid, or allowed to contain air.

Dr. Nathan G. Bozeman presented a

### DRAIN AND BAG FOR USE IN VESICO-VAGINAL FISTULA,

a device of his father's, Dr. Nathan Bozeman. It consisted of a spoon-shaped metallic collector to fit over the fistulous opening within the vagina, the concave surface of the hollow collector having numerous small perforations for admission of urine. To the collector were attached two rubber tubes, one of which passed down to the top of the rubber bag, the other to its bottom, the latter permitting of return and

escape of any air, the former conveying the urine. The bag could be fastened by strap around the thigh. By the siphon action of this instrument the vagina was kept free from any fluid and overflow was avoided. There was no suction of the mucous membrane.

#### THREE CASES OF TUBO-ABDOMINAL PREGNANCY.

DR. WILLIAM B. GILMER, of Macon, Ga., forwarded the paper, which was read by Dr. Buckmaster. The first case occurred in a woman who had borne three children, the last one about three years ago. She had not menstruated for about six months. Her doctor had been treating her about a month for severe pain in the right side radiating down the sciatic nerve, constant bloody discharge from the uterus, and loss of strength. He decided to terminate pregnancy, and introduced a tube into the uterus, but no further effect was produced than uterine contraction. Dr. Gilmer was called, who found a fluctuating tumor on the right side of the uterus, this organ pushed to the left, the cervix high up. A Barnes' dilator was introduced to dilate and permit of digital examination of the uterus. Four fingers were later introduced into the uterus and the organ was found empty. A large mass, moderately firm, was found in the cul-de-sac displacing the uterus. The woman's state being low, she was given until the next day to improve. She rallied well, but toward evening next day went into collapse, and died a few minutes after Dr. Gilmer's arrival.

The autopsy showed that a considerable quantity of blood had escaped into the abdomen. There was no evidence of peritonitis, nor of adhesions between the anterior surface of the tumor and abdominal walls. A large sac, covered with veins, lacking the glistening appearance of the peritoneum, extended up to the free border of the ribs. The uterus was on the left, adherent to the sac posteriorly. The left tube and ovary were in their normal relation, the right ones displaced by the sac, which contained a female fetus weighing about five pounds. There were also a large number of clots. The bleeding had come from a large vein torn across in the upper part of the sac wall. There were firm adhesions to the colon posteriorly. The placenta lay in Douglas' pouch. The uterus was much enlarged, its walls thickened, the cavity lined by decidual

membrane.

The second case occurred in a primipara who had menstruated last in February, but had a profuse flow in August. She had had symptoms of pregnancy, with increase in size of the abdomen, and the last four months severe abdominal pain radiating down the thigh. The patient had also felt fetal movements. The breasts contained milk. A tumor was felt on

the right, reaching as high as the umbilicus, very tender on palpation; placental bruit all over the tumor. At the examination the fetal heart sounds were not heard or movements felt. The cervix was against the pubis. The sound passed only two and a half inches. The cul-de-sac and greater part of the pelvis was filled with a mass differing in consistence at several points. The abdomen was opened September 1st. There were no adhesions between the tumor and abdominal wall. On palpation all parts of the sac seemed equally tense. There was no indication on palpation of the placental site. The trocar was introduced, but no fluid was withdrawn. The abdominal incision was extended, the tumor was incised, and a dead fetus ten and a half inches long was removed. The placenta, which was large out of proportion to the fetus, was spread out over the whole anterior surface of the sae. The placenta was taken away by tearing off large pieces at a time. Bleeding was profuse, but was controlled by irrigation with hot water. The sac was sewed to the peritoneum and transversalis fascia. No blood entered the peritoneum. Two rubber drainage tubes were inserted into the sac. The sac was irrigated. The patient did well, and the sac had at the end of three months contracted down to a mere sinus. The gradual changes during the healing process were described.

The third case had not been operated upon, and consequently, although the diagnosis of extra-uterine pregnancy seemed clear, it was impossible to say so positively. The pa-

tient had been sterile seventeen years.

The classification of the cases as tubo-abdominal had depended entirely upon the appearances. The author would not advise removal of the placenta in all cases, especially if the child were living; there would be much greater danger of fatal hemorrhage.

There was some discussion on this paper by Drs. Hanks, A. P. Dudley, Perry, Buckmaster, and Currier, mostly relating to the necessity for care in diagnosis, the liability to mistake some other condition for extra-uterine pregnancy, and the opposite; also to the advisability, as a rule, of not undertaking too much by way of removing the placenta in abdominal pregnancy, especially if the fetus be alive.

Dr. Nathan G. Bozeman read a paper on

ACCIDENTAL URETERO-VAGINAL FISTULA FOLLOWING HYSTERECTOMY; CURE BY URETERO-CYSTOTOMY; GRADUAL PRE-PARATORY TREATMENT AND BUTTON SUTURE.

Cases of this kind were comparatively rare and the literature mostly recent. The treatment advised by Dr. Nathan Bozeman had proven satisfactory in the author's case, which had been operated upon at the German Hospital for fibroid of

the uterus, the uterus and its appendages being removed with the tumor. The patient had made a good recovery from this operation, but a month afterward it was noticed that some urine escaped involuntarily, although the patient also emptied the bladder and rectum in the natural way. To be relieved of this trouble she entered the hospital August 3d, when Dr. Bozeman saw her. He found the vulva and vagina red from escaping urine, the cervix uteri absent. High up in the vagina and to the left could be felt some incrustations from earthy phosphates, which proved to be deposited by the urine on a bunch of silk ligatures which were protruding at that point from the vaginal wall. They were easily removed, leaving a small fistulous opening which did not communicate with the bladder. Bozeman's drainage apparatus was fitted, which the patient wore for protection against incontinence of urine. It was removed twice a day for douching and cleansing. As all the urine which escaped into the vagina was collected in this way, it was often compared for a given time with the secretion in the bladder, and in every instance the two quantities were found equal, which left no doubt as to the diagnosis of uretero-vaginal fistula. Later a vesico-vaginal fistula was formed at the orifice of the ureter, and, the urine being collected by the bag before mentioned, the wound cicatrized in ten days, when the patient could get up, still wearing the collector. Dilatation of the ureter was then practised, the dilator passing up not more than an inch and a half owing to surrounding plastic exudate. Finally the operation for establishing connection between the ureter and bladder, with closure of the artificial vesico-vaginal fistula, was performed. These last sutures were removed on the seventh day. Four or five weeks after the operation the patient had to urinate only four or five times a day. There was some pus in the bladder, which she was instructed to wash out.

The author had been able to find the histories of twentyone other cases of uretero-vaginal fistulæ, one being that of his
father. Ten were uretero-vaginal fistulæ the result of protracted labor or instrumental delivery; five from unsuccessful operations for closure of openings into the bladder; one
from ulceration caused by pessary; three from pelvic abscess; one from suppuration and working out of ligature in
the vagina after hysterectomy; one from amputation of the
cervix; one was congenital. Ten had been cured by treatment; not cured, nine; removal of the kidney on one side
in one. He referred to Althaus' paper reporting thirty

five cases.

# TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

Wednesday, January 6th, 1892.

The President, J. WATT BLACK, M.D., in the Chair.

Specimens.—Dr. Shaw Mackenzie: Sarcoma of both Ovaries. Dr. Heywood Smith: An Abscess connected with the Left Ovary removed by Abdominal Section (Actinomycosis?). Mr. Bland Sutton: (1) Dermoid Cyst showing Baldness of the Wall; (2) Dermoid Cyst associated with Fat in the Broad Ligament; (3) Hydro-salpinx. Dr. Boxall: Rupture of the Uterus.

Dr. HERMAN read a paper on

THE RELATION BETWEEN BACKWARD DISPLACEMENTS OF THE UTERUS AND PROLONGED HEMORRHAGE AFTER DELIVERY AND ABORTION.

From an analysis of 3,641 consecutive out-patients at the

London Hospital, the anthor shows:

That backward displacements of the uterus are more common in parous women than in those who have not had children.

That they are more common in those seeking advice soon after delivery or abortion than in those not applying for treatment until long after childbirth or abortion.

That they are more frequent among those in whom delivery or abortion has been followed by prolonged hemorrhage than

in those in whom it has not.

That prolonged hemorrhage after delivery or abortion is more frequent in cases of backward displacement of the uterus than in cases without such displacement.

Therefore, that there is a relation between backward displacements of the uterus and prolonged hemorrhage after de-

livery and abortion.

It is shown that these statements apply both to hemorrhage after delivery and to hemorrhage after abortion.

Dr. Inglis Parsons read a paper on

TWENTY CASES OF FIBROMA AND OTHER MORBID CONDITIONS OF THE UTERUS TREATED BY APOSTOLI'S METHOD.

Electrolysis exerts two actions, a polar and intrapolar. The former extracts acids and bases from the tissues near the

poles, and produces a secondary caustic action, while the latter causes an exchange of atoms between molecules, some polari-

zation, and possibly slight osmosis.

The electrical resistance of tumors varies greatly. It may be higher or lower than healthy tissue, and the results of treatment differ in consequence. Fibrous tissue and old hard tumors have a high resistance, while soft edematous tumors

are good conductors.

The position and size of the tumor are important. If submucous, it can be treated by the polar action; but if intramural, by the intrapolar only. A large tumor conducts better than a small one. The following points must be considered: 1. The position of the tumor. 2. Its relation to the abdominal wall. 3. Its age and consistence, 4. Its sectional area.

Of fourteen cases of fibro-involuta, hemorrhage was stopped The subsequent history, traced out for some years, showed no relapse in six cases, although in two of them the hemorrhage threatened life. One patient always relapsed in a few months. Removal of the appendages was advised, but refused. In many cases the flow rather increased at first, but in one it was arrested by only six applications.

Pressure Symptoms.—Relief was obtained in most cases. One patient, unable to walk, recovered her power after a few applications, while another with bladder symptoms showed no improvement; the tumor was too hard to be affected by the

current.

Diminution in size only took place to a limited extent in most cases, but one tumor entirely disappeared and pregnancy subsequently occurred, a result that could not possibly be obtained by removal of the appendages. Hysterectomy was afterwards performed on another case on account of the size of the tumor.

Pain sometimes followed strong applications for a day or two, but soon went off, while pressure pains were relieved.

For galvano-puncture greater care was required on account of the risk of sepsis, and only an insulated trocar should be used so as to leave no sinus. The risk appears to be very little, as no ill result ever followed in any of the cases.

Unsuitable Cases.—1. Fibro-eystic tumors. 2. Associated disease of the ovaries or tubes. 3. Very old and hard tumors.

4. Some which require no treatment of any kind.

A case of hematocele showed no appreciable alteration after

six applications.

Two cases of dysmenorrhea, due to anteflexion, remained unbenefited by the current. One case of neuralgic dysmenorrhea was apparently cured. Menstruation was established in a girl of 19 who suffered from primary amenorrhea.

Conclusions.—Apostoli's treatment is of value in a large

proportion of cases, because (1) it arrests growth and may reduce the size and even cause absorption of an entire tumor; (2) it arrests hemorrhage in most cases; (3) it relieves pain and pressure symptoms; (4) it does not prevent pregnancy.

Dr. Peter Horrocks said there was no scientific evidence of intrapolar action in the case of tumors. He said that clinically the negative pole was stronger than the positive. Troublesome ulcers might be produced if the negative wire touched the skin. He gathered from the context of the paper that by fibroma was meant fibro-myoma. He pointed out the difficulties of diagnosis, especially in small tumors, and he thought it was quite fair to doubt the accuracy of the author's diagnosis in Cases I. and VIII., and in the case in which he alleged that a tumor had entirely disappeared. Such disappearance he thought was greatly against its being a tumor in a pathological sense, and probably it was of an inflammatory nature. He pointed out that there was nothing mysterious about the action of electricity. It was a caustic, and any other caustic, especially heat, applied in the same manner and degree, would have equally good results. So that, whilst admitting that electricity was useful in some cases, he could not agree with the anthor's conclusions. What proof was there that electricity would arrest the growth of a fibro-myoma? He had already alluded to his disbelief in its power to cause the absorption of such a tumor. He agreed that it would stop hemorrhage and would not prevent subsequent pregnancy, but he was not equally sure that it would relieve pain and pressure symptoms in the majority of cases where these were present. But when this method was tried it was often so painful in itself that patients refused to continue it and would leave the hos-

DR. HERMAN agreed with most that Dr. Horrocks had said. He also could not agree to the diagnosis in the case in which a fibroid was said to have disappeared. The history seemed more like that of a hematocele from extra-uterine gestation, ending in natural recovery. The diversity of opinion in regard to the effects of electricity upon fibroids was in striking contrast to the unanimity about the results of the removal of the appendages. He objected to the galvanizing of the ute-

rus in a girl of 19 because she had not menstruated.

Dr. Playfair said some writers had undoubtedly exaggerated the claims of electricity, and probably this was the cause of the prejudice against it. But he pointed out that the opposition came chiefly from those who had given no time or trouble to mastering the undoubtedly difficult technique of its application. He had visited Apostoli and had assiduously tried his method. Increasing knowledge and

experience had not led him very materially to modify the conclusions he had already formulated elsewhere. He still believed electricity a substantial gain to gynecology, though the process was complex, difficult, and tedious, and not adapted for general use. That it possessed the power of promoting the absorption of fibro-myomata to a certain though limited extent, he believed to be beyond question. He did not consider it to be an absolutely safe procedure. Electropuncture was very different from electro-canterization. The number of cases in which mere diminution of size was of importance was very limited; hence he had practically abandoned this application of electricity, though he still thought it applicable in certain cases of fibroids impacted in the pelvis. He could not agree with Dr. Horrocks' attempt to minimize the value of Dr. Parsons' cases by questioning their diagnosis. He found the hemostatic effect of the positive pole admirable in many cases, but not in all, and he thought this was due to the actual contact of the pole with the endometrium. He could not agree with Dr. Horrocks that curetting and the application of caustics acted as well. Manifestly they were quite inapplicable to most cases of hemostatic fibroid where there was a largely elongated endometrium. He quoted a case where caustics and the curette had been thoroughly applied, but always with temporary benefit. He tried electricity, and the lady, although only between 30 and 40 years of age, had never menstruated since. He believed that, theoretically, electricity should be tried first in all bad cases of hemorrhagic fibroid; but it was too costly and tedious in some cases, and then removal of the uterine appendages should be performed. He was surprised Dr. Parsons had not mentioned the use of electricity in chronic uterine catarrh and other morbid conditions, such as membranous dysmenorrhea.

Dr. Routh thought the entire disappearance of fibroids by electricity had been exaggerated. Soft ones disappeared more readily than hard ones. Electricity certainly did good and enabled persons to get about as if the fibroids did not exist. Applied to the cavity of the uterus, the negative pole produced dilatation of the cavity and very often induced menstruation; the positive pole arrested hemorrhage. He thought it was scarcely kind to doubt the diagnosis of the cases brought forward by Dr. Parsons.

Mr. Skene Keith thought it hardly fair to east doubt on the electrical treatment by suggesting that mistakes in diagnosis were sometimes made. He agreed very much with Dr. Parsons' conclusions, but thought in some cases surgical inter-

ference might be the better treatment.

Dr. Inglis Parsons, in his reply, said that he had, in 1888,

552 REVIEWS.

opposed the theory of intrapolar electrolysis. In his experience the anode was more destructive than the cathode. diagnosis in the majority of these cases was from the size of the tumor beyond a doubt. They had been seen by his colleagues. In one case he had stated in the paper that the diagnosis was an open question. He thought the tumor which disappeared was undoubtedly a soft fibro-myoma. He had watched it for three years, and, taking the history and all the points of the case, any one would arrive at the same conclusion by a process of exclusion. She did not have amenorrhea, but persistent menorrhagia for two years. He agreed with Dr. Herman regarding the treatment of primary amenorrhea, but in this case the mother was very anxious for menstruction to begin. In fibro-myoma the menopause was often delayed five years or even more. He thought that acupuncture was much less dangerous when done with his own insulated trocar, because it did not leave a sinus as Apostoli's did. He had only lately used electricity for endometritis, but he hadfound that it would cure cases when all other means had failed.

## REVIEWS.

Practical Midwifery: A Handbook of Treatment. By Edward Reynolds, M.D., Fellow of the American Gynecological Society, of the Obstetric Society of Boston, etc. New York: William Wood & Co., 1892. 121 illustrations, pp. 421.

Viewed from the standpoint of modern midwifery, this manual is a thoroughly good one. The aim of the author has been to furnish the student with a guide to the practical management of labor and the puerperal state, and to describe at least one method of dealing with each of the emergencies of obstetric practice. This aim has been amply fulfilled. Here and there the manual carries with it considerable dogmatism, but the author admits this as his intention, in the belief that a description of one justifiable method of treatment will be of greater benefit to the inexperienced practitioner than an extended discussion of the advantages and disadvantages of many methods. Fortunately for the inexperienced student, the author has been happy in the selection of safe methods of treatment, even though at times it can be questioned if there are not better methods. These are points, however, in which

REVIEWS. 553

difference of opinion depends on individual experience, and they do not at all detract from the merit of the work.

Within its sphere this manual ought to attain much popularity. It is published in handsome style, well indexed, and amongst the wood cuts it is a pleasure to note a number of new ones.

A Manual of Practical Obstetrics. By Edward P. Davis, A.M., M.D., Clinical Lecturer on Obstetrics in the Jefferson Medical College; Professor of Obstetrics and Diseases of Children in the Philadelphia Polyclinic; Visiting Obstetrician to the Philadelphia Hospital; Physician to the Children's Department of the Howard Hospital; Member of the American Gynecological Society. Pp. 289, 128 illustrations, and 11 lithographic plates. Philadelphia: P. Blakiston, Son & Co., 1891.

The preparation of this book was suggested to the author by the needs experienced in teaching students of medicine. He found that the developments in post-graduate instruction had produced a class of men who did not wish or need the details of anatomy and physiology memorized by the student in his earlier studies, but who wished to know the reasons for scientific facts and the practical uses to be drawn from them. As an aid in such study he gives a concise and well-digested statement of modern obstetrics as taught by the more prominent contemporary authorities, guiding his choice of methods by his own experience. The plates and illustrations, which are well chosen, are taken from the various works used in the preparation of the text.

Nursing in Abdominal Surgery and Diseases of Women. By Anna M. Fullerton, M.D., Physician-in-Charge of and Obstetrician and Gynecologist to the Woman's Hospital of Philadelphia, etc. 12mo, pp. 280, 69 illustrations. Philadelphia: P. Blakiston, Son & Co., 1891.

This is a most excellent little work, which fills its place very completely and in which it is difficult to find a point for adverse criticism. It gives plainly and clearly every point of technique required by the nurses and assistants in carrying out the exacting details necessary to secure that asepsis and antisepsis of the wound, patient, and environments so necessary to secure success in modern surgery. The methods recommended are those which have proven useful and successful in the surgical work of the Woman's Hospital of Philadelphia, the Johns Hopkins and other prominent hospitals, both here and abroad. The technical chapters are prefaced by others on theories of asepsis and antisepsis and the germ theory of disease, and supplemented by a section on diet for the sick.

FIRST LINES IN MIDWIFERY. By G. ERNEST HERMAN, M.B. (London), F.R.C.P., Obstetric Physician to the London Hospital, and Lecturer on Midwifery; Physician to the General Lying-in Hospital; formerly Physician to the Eastern District of the Royal Maternity Charity; Examiner in Midwifery to the Royal College of Surgeons; Consulting Physician-Accoucheur to the Tower Hamlets Dispensary, etc. Pp. 186, 80 illustrations. Philadelphia: Lea Brothers & Co., 1892.

This work is designed to give such elementary knowledge as may be needed by a midwife or student in the care of their first cases of normal labor, and it presents that knowledge in a

clear and practical way.

Transactions of the American Gynecological Society for 1891. Vol. xvi., pp. 567. Philadelphia: Wm. G. Dornan, 1891.

Twenty-three of the papers contained in this volume were read before the Society, and published, in abstract, in the Oc-

tober, 1891, issue of this Journal (page 1210 et seq.).

In the first of the remaining fourteen papers, Stansbury Sutton records a successful Porro operation for a five months' pregnancy complicated by an enormous uterine fibro-cyst, his case making the thirteenth recorded of premature puerperal hysterectomy, of which ten were successful. Franklin H. Martin records five cases of nterine fibroids unsuccessfully treated by galvanism, and from an analysis of their histories concludes that: Fibro-cystic tumors are not benefited by electricity; the peculiar sensitiveness of patients with fibro-cystic tumors to electricity makes that fact of diagnostic value in determining that condition; when the canal is so distorted as to be impenetrable we must employ galvano-puncture or the knife; galvano-puncture should not be employed unless we can secure absolute asepsis, and will sometimes fail to cure in large bleeding fibroids; small multiple fibroids are liable not to improve under the Apostoli treatment, as are also cases with an expanded and irregular uterine cavity. Geo. M. Tuttle records his experience in the operative treatment of thirteen cases of ectopic gestation, from March 21st, 1888, to October 10th, 1891, with only two deaths. The remaining papers are: The Drainage Tube in Laparatomy, by Wm. H. Wathen; Puerperal Pernicious Anemia, by Ed. P. Davis; Atresiæ of the Genital Tract, by Florian Krug; Ovarian and Tubal Abscess opening into the Bowel, by Arch. McLaren; Abdominal Section in Septic Peritonitis after Childbirth, by Barton Cooke Hirst; Congenital Malformation of the Genital Tract, by C. P. Strong; Salpingitis in Relation to Pregnancy, by C. P. Noble; Sloughing Fibroids, by P. H. Ingalls; Unusual Cases in Abdominal Surgery, by V. O. Hardon; Tubal and Peritoneal Tuberculosis, by G. M. Edebohls; Etiology of Uterine Anteflexion, by Wm. Mosely; and In Memoriam—Fordyce Barker, David Humphrey Storer, Geo. Hincley Lyman.

Transactions of the American Association of Obstetricians and Gynecologists. Vol. iv. For the year 1891. 5 plates and 25 illustrations, pp. 313. Philadelphia: Wm. G. Dornan, 1892.

The major part of this volume has already appeared in the full abstract of the proceedings which was published in the October and November numbers of this JOURNAL for 1891

(page 1243 et seq.), to which the reader is referred.

Other papers are by I. S. Stone, on Some of the Dangers Incident to Delay in Operating for Uterine Myomata; by Geo. R. Shepard, on the Treatment of Minor Lacerations of the Female Perineum; by Win. H. Wenning, on Manual Rectification of certain Malpositions of the Head in Labor; by Clinton Cushing, on the question Shall we use the Uterine Sound to correct Backward Displacements of the Uterus!; by Edmund M. Paul, on Two Cases of Abdominal Section; by A. Fr. Eklund, on Prophylactic Gynecology: A Plea against Legalizing Prostitution.

The Transactions of this and the American Gynecological Society maintain their standard so uniformly and are so well known that any more extended reference seems unnecessary.

## ABSTRACTS.

1. Gebhard, C.: Sublimate Intoxication (Zeitschrift für Geburts. und Gynäkol., Band xxi., Heft 2, 1891).—After it had been demonstrated by Koch that bichloride was a very efficient antiseptic, the drug came rapidly into use, especially in obstetrical and gynecological practice. It was not long, however, before its indiscriminate use was found not to be devoid of danger, and soon fatal cases of poisoning were reported. The first of these was by Lömer, in which a fatal dysentery resulted. Mikulicz also demonstrated that the antiseptic properties of the drug were much diminished when brought into contact with albuminous fluids. This caused a reaction in the use of the drug and led to the exercise of more care and more exact dosage. The symptoms of poisoning have not been fully established, and G.'s observations are given with the purpose of determining the symptoms, espe-

cially from a prognostic and diagnostic standpoint. The usual belief that salivation and stomatitis are the first symptoms of poisoning may be true when the drug is used by inunction, but by injection diarrhea is always the first and most constant symptom. The diarrhea is slimy at first, later bloody, containing mucous shreds, and is very foul-smelling. Coincident with this the patients complain of pains in the abdomen and severe tenesmus. The next most marked symptom is diminution in the amount of urine excreted, at times even suppression (this being a very unfavorable prognostic symptom). The urine contains albumin, casts, and epithelium, red and white blood corpuscles, and in some cases biliary coloring matter. The third symptom in order of frequency is stomatitis. Patients complain of pain in the gums, tongue becomes swollen, and a smeary coating forms on lips and on the mucous membrane of cheeks. Salivation does not always occur, even in fatal cases. The general symptoms are headache, dizziness, restlessness, somnolence, euphoria, hyperesthesia. The temperature is subnormal, the pulse accelerated, easily compressed, and often irregular. Erythemata are

At the autopsy the *intestines* and the *kidneys* are the organs which are always and the most severely affected. According to Virchow the inflammation in the intestines begins in the sigmoid flexure, colon, and rectum, the deeper portions being affected first. The mucous membrane is swollen and reddened, the submucous layer edematous. In the mucous membrane hemorrhagic infiltration takes place and diphtheritic processes develop. Chemically, the presence of mercury can always be demonstrated in the stools, and this led to the belief that the sublimate acts directly as a caustic upon the mucous membrane. This theory has been opposed by Grawitz through his experiments on dogs. Kaufmann explains the change by considering that the sublimate acts as a ferment upon the blood, causing capillary thrombosis and thus secondary necrosis. The changes observed in the kidneys are a cloudy swelling and fatty metamorphosis of the glandular parenchyma. More important, however, is the presence of calcareous matter in the cortex. Chemically this matter consists of phosphorated and carbonated lime. This formation may be explained in one of three ways: 1. A functional disturbance, causing an abnormal increase in the amount of lime exercted. 2. A nutritive disturbance, a necrosis with resulting petrifaction of the epithelium. 3. A formative disturbance, just as bony matter is formed. This last theory is, however, untenable. Virchow believes the first theory to be the correct one, whereas Kaufmann is the author of the second theory. G. made an autopsy on a case of sublimate

poisoning and found this calcareous deposit in the cortex. After making a careful microscopical examination he came to the conclusion that a calcification of the epithelium of the urinary canaliculi takes place, thus substantiating Kaufmann's theory.

L. S. R.

- 2. Strassmann: Hydrastinin (Deutsche med. Wochenschrift, No. 47, 1891).—The writer employed this drug, both per os and by subcutaneous injection, in twenty-seven gynecological cases. In three of the cases the length of time under observation was too short to draw any conclusions. Of the remainder, six received injections (ten per cent) and eighteen took the drug by mouth. The largest dose by mouth per diem was 0.15 and the maximum injection 0.2. drug per mouth was given in the form of pearls 0.025, and by injections 0.05 to 0.1. From forty to sixty pearls were taken in from two to three weeks. The indications were: menorrhagia, after difficult operative labors, endometritis, chronic parametritis, subserous fibroids, metrorrhagia due to some nervous origin, hydro-salpinx, tubercular salpingitis, perimetritis, enlarged ovaries, subinvolution of the uterus post partum, post abortum, atrophy of the uterus, myoma, and subinvolutio uteri without hemorrhage. treatment except rest in bed, which was enjoined in all of the cases. In three cases, tubercular peritonitis, salpingitis, and in one case in which a portion of a retained placenta was afterward removed, the drug proved useless. In the remaining twenty-one cases the action was decidedly beneficial. Hemorrhages were entirely controlled in from two to three days, menstruation less profuse, not lasting so long, and usually postponed for a few days.
- 3. Herzfeld: A Case of Ovarian Pregnancy coincident WITH NORMAL UTERINE PREGNANCY; LAPARATOMY; RECOV-ERY (Der Frauenarzt, Heft 11, 1891).—The patient, 31 years of age, was admitted to the hospital March 24th, 1891, a diagnosis of abdominal pregnancy having been made before her admission. She had had two normal deliveries and one miscarriage in the fourth month. Menstruated last in June, 1890. On the 12th of March, 1891, she was delivered of a perfectly healthy living child. Right after delivery she had the feeling that another child lay in the abdomen. Ten days later, her abdomen not having decreased in size, she summoned a physician, who made the diagnosis of abdominal pregnancy and advised laparatomy. On the 24th of March severe pains and hemorrhage set in, and she was persuaded to enter the hospital for operation twelve days after the first child was born. An examination upon admission revealed a tumor extending two fingers' breadth above the umbilious

and running somewhat obliquely from right to left. Above the symphysis another tumor could be felt, which was made out to be the nterus. By vaginal examination the fetal head could be felt through the posterior vaginal vault. No fetal heart sounds or uterine bruit could be heard. The abdomen was opened and a tumor resembling an ovarian cystoma came into view. On introducing the hand the tumor was found to come from the adnexa on the right side, and the fetal parts could be readily felt. It evidently came from the ovary, as the tube was perfectly free. The tumor was removed and the pedicle tied, the abdomen then closed in the usual man-Convalescence normal. On opening the sac after its removal only a small quantity of amniotic fluid came away, mixed with meconium. The fetus was a boy weighing 2,870 grammes, 49 centimetres long. The skin was not at all macerated. Cord 50 centimetres long; insertion velamentous. Placenta normal. Microscopical examination negative.

L. S. R.

4. Wyder: Extra-uterine Pregnancy (Archiv für Gyn., Band lxi., Heft 1 und 2).—W. reports six very interesting cases of extra-uterine fetation:

1. Extra-uterine pregnancy in the second month. Rupture of the sac. Ante-uterine hematocele. Recovery with-

out operation.

2. Ectopic pregnancy in the second month. Rupture of sac. Retro-uterine hematocele. Recovery without operation.

3. Tubal pregnancy in the second month. Rupture of the tube. Retro-uterine hematocele; hemorrhage into the abdominal cavity. Laparatomy with extirpation of the sac. Recovery. Two years later a normal labor.

4. Graviditas ovariea, second to third month. Menstruation. Laparatomy. Resection of the section. Death due

to septic peritonitis.

5. Graviditas abdominalis. Death of fetus in the tenth month. Laparatomy about twelve weeks later. Recovery.
6. Uterus bicornis with rudimentary horns. Pregnancy in

6. Uterus bicornis with rudimentary horns. Pregnancy in the horn. Rupture of the sac in the fifth month. Very profuse hemorrhage into the abdominal cavity. Laparatomy. Death.

The author emphasizes certain points of importance in reference to the occurrence of ectopic gestation. He believes that normally the seat of fetation is not in the tube, denying that in healthy women spermatozoa are ever found there. As to diagnosis, he claims that the condition of the uterine mucosa is the first and most important diagnostic point, namely, the finding of decidua. He believes, as regards

treatment, as does Werth, that ectopic pregnancy must be considered analogous to a malignant new growth, but he advises in cases of encapsulated hemorrhages not to operate too early, for there is a possibility of a spontaneous cure. In cases of marked anemia during the operation, threatening death, he strongly recommends transfusion.

L. S. R.

5. Zweifel: Extra-uterine Pregnancy and Retrouterine Нематома (Archiv für Gynäkologie, Band xli., Heft 1 und 2).—Thirteen cases of extra-uterine pregnancy are reported by Z. Case I. is particularly interesting, both from an anatomical and clinical standpoint. Thinking the child was dead and that there existed a retro-uterine nematocele, an elytrotomy was performed. In doing this the placenta was cut into, thereby causing a severe hemorrhage. Laparatomy was then performed, this revealing the adhesions and showing the impossibility of removing the sac, and also the existence of a five months' living child. The placenta was not touched, but the hemorrhage still continued so severe that tampons of iodoform gauze had to be hastily introduced, coming out through the vagina. The sac was closed on the abdominal side and the abdominal wound entirely closed. Severe hemorrhages set in again, and the patient died on the sixth day of suppurative peritonitis. The sac, which was obtained at the autopsy, was firmly adherent to all the surrounding organs and lay to the right of the markedly enlarged uterus. Between the sac and the uterus lay the ovary and the tube, which was eleven centimetres long and upon first appearance seemed to have no communication with the sac. minal end of the tube, which was about four centimetres long, lay upon the sac: the ostium abdominale was closed, but could easily be opened, and, when this was done, it revealed that the upper border of the fimbria was folded in, whereas the lower border lay upon the sac and had grown into the wall of the sac. The tube did not show the presence of any pus, nor placenta, nor membranes. The wall of the sac varied in thickness (two to seven and a half centimetres); the placenta lay upon the sigmoid flexure and its mesentery, which had been pushed well to the right. The wall of the sac contained smooth muscular fibres; these the author considered as representing portions of the fimbriæ which were attached to the wall, and also a part of the retroperitoneal muscular layer. Microscopically, "monster" cells were found at the placental site; furthermore, tubal epithelium, which in part was entirely unchanged, was found in different portions of the wall of the sac. The results thus found led Z. to designate the case as one of intraligamentous tubal pregnancy (Werth), the original seat of the ovum being in the "plica infundibulo-ovarica."

The author in similar cases—that is, when the adhesions cannot be separated, when the placenta is partly detached, and union of the sac to the abdominal wall cannot be accomplished—advises removing the placenta as quickly as possible, tamponing the sac and sewing it in the direction of the abdominal cavity, after having tied the vasa spermatica and compressed the aorta (Olshausen). If no placental hemorrhage occurs and there is no fever, it is better to leave the placenta in situ and to close the sac completely.

In two cases Z. operated successfully long after the fetus had died. In both cases the sacs were opened, but not removed owing to the adhesions. In the one the placenta came away by suppuration, the wound closing at the end of seventy-two days; in the other the placenta was pulled out

without causing any hemorrhage.

Of the remaining cases, two of the sacs did not rupture, and were treated successfully by removal of the adnexa. In three of the cases, tubal pregnancies which developed into hematoceles were observed. In five cases the hemorrhage which occurred was due to rupture of the tube. Of these eight cases one died and the diagnosis was made at the autopsy; one case was immediately operated upon (indicatio vitalis) with success and the freshly effused blood completely cleared out; in the remaining six cases the blood became encapsulated. These were treated by elytrotomy or laparatomy, according to the greater accessibility. Of the three cases in which elytrotomy was performed, one died owing to neglect in the after-treatment (puncturing the sac with the irrigator). The three cases of laparatomy all recovered. In one of the cases laparatomy had to be performed after the elytrotomy, because the operation from below was incomplete.

The author favors elytrotomy whenever practicable, owing to its lack of danger in the hands of a careful operator, but states that when diffuse tumors or open passages can be felt in the folds or upon the walls of the sac, then the elytrotomy does not suffice, but laparatomy must be performed in addition. He does not believe in operating upon all cases of hematocele. He reports forty-one cases treated expectantly and twenty-five treated by operation. He agrees with J. Veit in believing that in a large number of cases the hematocele is due to rupture of an extra-uterine fetation, even though in some cases the presence of the fetus or chorionic villi cannot be found. From his own observations he found this to be the cause in nineteen per cent of all the cases.

L. S. R.

6. Laubenburg: Leucemia and Pregnancy (Archiv für Gynäkologie, Band xl., Heft 3, 1891).—Leucemia in women is an exceedingly rare affection, much rarer than in men (according to Birch-Hirschfeld, 32.5 per cent to 67.5 per cent). L. was able to find only three cases reported in literature. He had a case under observation, the history of which is briefly as follows: Patient 32 years old, pregnant, came to the hospital with marked symptoms of anemia; these she had had for three years and they had been the direct cause of three miscarriages. She had been married twelve years; six children, four abortions. Her previous history was negative. Present illness began about seven years ago; no assignable cause. She complained of weakness, loss of appetite, indigestion, palpitation, dizziness, etc. The weakness frequently compelled her to remain in bed for from four to six weeks at a time. Of late she menstruated very irregularly, only a small quantity, and this very pale. She never had any hemorrhages. During the past year she had a yellowish hue. lasting for a short time. For three or four years she has observed a tumor growing on the left side. An examination on admission to the hospital revealed great pallor and a somewhat ieteric hue, general anasarca. Uterus (fundus) three fingers below the umbilious. The left hypochondrium filled by an enlarged spleen. The liver extended four centimetres below the free border of the ribs. Lungs normal. Heart not enlarged; systolic murmur at the apex. Pulse small and rapid (100). The jugulars showed a venous pulsation. A diagnosis of pregnancy (fifth month) was made. Examination of urine showed considerable albumin and a few granular casts. Examination of blood: Increased number of white blood corpuscles (w:r::1:10). Miscarriage on December 19th; breech presentation; amount of blood lost slight; child macerated and corresponding in size to about the twentieth week; duration of labor, twelve and a quarter hours. Three hours after labor patient's condition became very bad, and she gradually grew comatose. A difficulty in hearing was especially marked. At the expiration of forty hours, in spite of stimulation, she died of pulmonary edema. Just before death a peculiar cadaverous odor developed (this has been noticed and described by Eichhorst, Steinberg, and Schultze). Fifteen hours after delivery the urine contained albumin and a few granular casts; in the blood the ratio of white to the red corpuscles was one to fifteen. Thirty hours after delivery there was scarcely a trace of albumin and no casts in urine; the ratio of white and red corpuseles was 1:20. No micro-organisms found in the blood. Autopsy: Substance of brain exceedingly pale. In abdomen moderate quantity of yellowish, transparent fluid. Mesenteric glands not swollen.

Spleen markedly enlarged and adherent to the diaphragm. On its posterior surface a white cicatrix can be seen; this is partially calcified (rupture of spleen?). Microscopically, hyperplasia of the spleen pulp, slight increase and extension of the trabecula. Liver enlarged, yellowish-brown. Microscopically, increase of interstitial connective tissue and cellular infiltration; many liver cells atrophied; fatty degeneration. Capsule of kidneys adherent in places. Kidneys on section are pale; the right has red and yellow spots upon it. Microscopically, principal change is in the cortex; the cells of the glomeruli and canaliculi show a cloudy swelling, and in their vicinity are lymphoid infiltrations. Left ovary atrophied; the right enlarged, containing a small cyst; alongside of this a corpus luteum verum. Microscopically, the follicular ovarian tissue is very feebly developed; otherwise nothing pathological. Uterus well contracted; mucous membrane extremely pale. From a study of this and the other reported cases L. concludes:

1. That leucemia may at times stand in direct relation with the disturbances caused by pregnancy, labor, or the puerperium; 2, that it may be the direct cause of an abortion; 3, that it becomes more severe during pregnancy; 4, the prognosis becomes decidedly worse, even very grave, at times during pregnancy or labor; 5, the induction of premature labor is to be recommended, and that in the early months of pregnancy.

L. S. R.

7. Hofmeier: Prophylaxis in Puerperal Affections (Deutsche med. Wochenschrift, 1891, No. 49).—H. is very much opposed to the present endeavors to instruct students and midwives not to make combined internal and external examinations during labor. He believes that when no internal examination is made there is considerable risk of some condition being present which cannot be diagnosed by the external examination alone; or if the condition is discovered it may be too late. H. proves the small amount of danger resulting from his teaching—namely, allowing the students to make internal examinations—by the results obtained in the Würzburg clinic. Of one thousand cases only five died, and of these five only one of puerperal affection. Eighty-five cases showed some symptoms. Of these, in forty-six the temperature rose slightly for one or two days. Of the remaining thirty-nine, in only twenty-one were there marked puerperal symptoms. He claims that these satisfactory results are obtained by the method of treating the parturient woman. The external genitals are first thoroughly cleaned and disinfected, then the vagina and cervix are gently washed with a solution of bichloride (1:2000), and this repeated after each internal examination. No irrigation after labor or in the puerperium. In one hundred and thirty-nine cases before this method of disinfection was carried out a morbidity of 19.4 per cent occurred, whereas in two hundred and thirty-nine cases after disinfection there was only a morbidity of 5.9 per cent.

- 8. Henoch: Chronic Peritonitis in Children (Deutsche med. Wochenschrift, No. 1, January, 1892).—Henoch does not believe, as has been taught by West, that nearly all cases of chronic peritonitis in childhood are of a tuberculous nature. He does not see why the peritoneum cannot take on a chronic inflammation and cause a serous exudation into the abdominal eavity, just as the pleura takes on an inflammation. He calls particular attention to those cases which only show the presence of ascites, which may be very large in quantity. These cases progress as follows: The children are usually over 3 years of age; they seem to be quite well, do not complain of pain, nor is the abdomen tender to pressure. The only thing that the parents have noticed is an increase in the size of the abdomen. An examination reveals free ascites (author has never seen it encapsulated in this form of cases). No cause for the ascites can be found in the liver, kidneys, or heart. Rarely is it traumatism. Tubereulosis can be excluded in many cases, from the general condition of the child and its ultimate recovery, although at times it may be very difficult to exclude this as a possible cause. The finding of tubercle bacilli in the fluid which has been withdrawn is often a very difficult task, so that, although they are not found, we cannot say that the case is not tubercular, nor does the use of tuberculin help us in making a diagnosis. The majority of cases affected with this simple form of peritonitis are girls. In boys it occurs very rarely. This leads to the thought of a connection between the affection and the genital organs, and it has been stated that a vulvo-vaginitis, which occurs frequently enough in children, may travel up to the uterus, thence to the tubes, and so on into the peritoneal eavity. These cases must be differentiated from a cirrhosis of the liver producing ascites, which can only be done after the fluid has been withdrawn and the liver then palpated; and from tuberculosis, which, as stated before, may be very difficult. The treatment of these cases is a purely surgical one. Medicines, puncture, etc., do little if any good. The ascites returns almost as fast as the fluid is withdrawn. Laparatomy, on the other hand, produces a rapid and permanent cure in these eases, as it often does in tuberculous peritonitis.
- 9. Martin, A., and Mackenrodt: The Effects of Electrotherapy in Cases of Myoma (Deutsche med. Wochenschrift,

No. 2, January, 1892).—Thirty-six cases of myoma were treated in Martin's private clinic. They were all treated according to Apostoli's method—thorough disinfection before the séance; cleaning the uterine electrode with bichloride; regulating the current with a rheostat; using the constant current, anode in the uterus, cathode on the abdomen; intervals of one to three days between the séances; careful directions to the patients as regards rest and diet; number of séances from three to forty-two; the current applied from three to ten minutes, using it up to one hundred and fifty milliamperes. Of the thirty-six cases the ages varied between 28 and 53. Their symptoms were meno- and metrorrhagia, fluor albus, pressure symptoms, abortions, anemia. These cases could be divided into two distinct groups. In twenty, in which the tumors were mostly small, an improvement occurred as the result of treatment. This could be called a "symptomatic cure." But in examining these cases more closely they found: 1. That in no case did the tumor disappear. 2. A marked diminution in the size of the tumor could never be made out. 3. Eight of these twenty cases were over 45 years old, so that during the treatment the climacteric occurred. this, of course, producing a diminution in the tumor. 4. Of the remaining twelve of this group the improvement in most of them was not a permanent one.

As regards the sixteen remaining cases, the treatment certainly produced a much worse condition of the patient than had existed before. In fact, three patients died as a result of the treatment. The hemorrhages became so severe as to threaten life, and were continuous; the patients became extremely nervous and had severe peritoneal pains. Ten of these patients begged to be operated upon. Consequently they condemn the use of electricity for the cure of uterine myoma. When there are no symptoms no local treatment is employed; iodine or mud baths are ordered. When symptoms arise, then the cases are operated upon either by laparatomy or by vaginal enucleation.

L. S. R.

10. EBERMANN, A., SR.: ENDOSCOPY AND THERAPY IN AFFECTIONS OF THE FEMALE URETHRA (St. Petersburger med. Wochenschrift, No. 47, 1891).—The length of the female urethra measures from twenty-five to thirty-five millimetres; its diameter, according to Winckel, is seven millimetres, but, being very dilatable, it can be stretched to ten millimetres. Its direction is almost vertical, having a slight concavity toward the symphysis. The mucous membrane is rich in elastic fibres and is covered on its lower portion with pavement epithelium; near the orificium externum mucous follicles are to be found. For diagnostic purposes it is necessary to know

the endoscopic picture of the normal mucous membrane.

1. The normal membrane appears in the form of folds; these folds run from the centre to the periphery of the urethra.

2. The central opening where these folds run together appears in the form of a dark round spot.

3. Its color is similar to that of the mucous membrane of the vagina and mouth.

4. In normal conditions Littré's glands cannot be seen with the endoscope; they can only be seen when swollen through inflammation.

Urethritis in the female occurs much less often than in the male, is usually gonorrheal, rarely traumatic. The acute form may at times present few if any symptoms, or there may be marked dysuria or strangary. The chronic form produces even fewer symptoms. On inspection the orifice appears dark red or blue, the wall may be thickened, and at times on pressure a drop of pus may be squeezed out. Hemorrhage occurs very rarely. Gonorrheal condylomata often form around the orifice. In an acute attack the endoscope shows the membrane to be dark red, swollen, the normal folds absent; it bleeds easily and is painful on examination.

In chronic gonorrhea the endoscope reveals granulations which may run along the entire circumference of the canal, or only along the wall; they bleed easily when touched; their color is dark red; no normal folds can be seen. Littre's glands become visible in the form of little elevations. There are also mixed forms in which we observe the swollen glands and the granulations together. Strictures may also occur, but this

is rare.

Another condition of the urethra is fissure, as described by Grünfeld. These fissures E. treats with a solution of nitrate of silver (3 i. to aq. 5 i.), following the application with the introduction of a gelatin stick containing half a grain of cocaine. Chronic gonorrhea is also treated with nitrate of silver, whereas the acute form is treated expectantly. L. S. R.

11. Prochownick: The Etiology of Fibromyoma (Deutsche med. Wochenschrift, No. 7, February, 1892).—The author observed several cases in which the patients were syphilitic and in which the antisyphilitic treatment had no effect whatever upon the myoma. Myomata are found in cases where there is either some specific irritation of the walls of the vessels, or where there is a tendency to the formation of tumors which grow as a result of irritation. The syphilitic virus may perhaps be considered a specific irritation in this sense, but the tendency of syphilis is to cause a contraction of the tissues, and not a proliferation. Observations would tend to make us look upon the theory of the formation of these growths as the result of a variety of irritative causes, as the more tenable and more satisfactory explanation.

L. S. R.

12. Nunn: On Maternal Conditions in Congenital Syphilis (Brit. Gyn. Jour., February, 1892).—Pathological laws supposed to govern the advent and progress of the phenomena of hereditary and of infantile syphilis have been enunciated, and by repetition widely promulgated; but it may be suspected that the alleged facts which are said to have revealed such laws have been more or less but opinions and conjectures, for of all diseases syphilis is one of the most ca-

pricious and irregular in its manifestations.

The far-reaching mischief of syphilis in the woman by the resulting contamination of her offspring offers a problem of momentous importance which has still to be thoroughly The arriving at all the facts in cases of hereditary syphilis is often difficult in a variety of ways, and sometimes it is only by a fortnitous concurrence of circumstances that these facts are laid bare. The degrees with which and the mode in which the state of the maternal blood, the condition of the uterine and allied tissues, affect the ovum of a woman the subject of constitutional syphilis, and the part played by the placenta in a syphilitic pregnancy, demand further investigation; and there still is some divergence of opinion as to whether the sperm of a once syphilized man can at any time and at all times poison the woman indirectly through the medium of the ovum or fetus. Assuming such poisoning to be possible, we thus have, in the consideration of the maternal relations of hereditary syphilis, the mother on the one hand and a possibly contaminated ovum on the other-since immediately the ovum is fertilized it is no longer exclusively of the mother. Infection of the fetus by the blood of a syphilitic mother would seem to be inevitable; nevertheless anomalies have been recorded. Where the woman has been the subject of direct infection previously to conception, the road by which the disease shall reach the progeny would seem short. But we have to ask, when does the noxious quality of the blood first begin to injure the ovum? Is the ovum already syphilized when about to pass into the uterus? Is it syphilitic in the sense in which the seminal particles of a syphilized male are supposed to be syphilitic? Does the ovum carry its own syphilis, or is the contamination commenced only when it begins to absorb the maternal juices from the uterine walls?

The specific action of constitutional syphilis in the woman, however derived, may declare itself in the reproductive organization, including the placenta, by giving rise to endometritis, to interstitial metritis, and to changes limited to the cervix. The placenta is involved by the endometritis persisting during pregnancy, and complications as regards the fetus are entailed. Since Robert Barnes led the way in the

study of the pathology of the placenta, Wilks and others have described syphilitic changes in that body. More Madden says that inflammation of the placenta is "generally syphilitic in its origin." The damage of the placenta by the maternal syphilitic cachexia, or the escape of the placenta from syphilitic degeneration, may carry the explanation of the remarkable phenomenon, in the case of twins, of one child being born diseased while the other child is born healthy. Such cases have been recorded by Campbell, Caspary, Diday, Hutchinson, Fournier, and others. Bryant, in his "Surgical Diseases," relates that he "has notes of an instance of twins born of syphilitic parents. One went through all the series of complaints common to hereditary syphilis, and the other escaped altogether-that is, at the end of a year and a half no symptoms had appeared." Could it have happened in this case that there was a double placenta, and that the difference in the diathesis of the twins was due to a difference in the healthiness of the placenta? Mr. Bryant mentions another instance of twins "born under like circumstances, in which one child showed symptoms of hereditary syphilis at a month, and the other at four months." Now, the degeneration of the placenta is mostly described as being unequally diffused, as being in circumscribed areas. This limitation of morbid change, if the placenta were not distinct, might have a share in the eccentric transmission of the syphilitic poison, but, all the same, the matter would be still enigmatical.

Syphilitic deterioration of the body of the uterus from constitutional syphilis and from carrying a syphilized fetus may be illustrated by the following case. The patient had suffered from secondary symptoms previously to conception. aged 31 consulted me this year on account of severe hypogastric pains, bearing down, and backache. She was married twelve years since and is now a widow. Within a year of her marriage, being in India, she gave birth to a healthy child. Four months after this event she was infected by her husband, and had, as one of the consequences, rupial eruption, of which she bears marks. Sixteen months later a second child was born, which at the age of 3 months had symptoms of congenital syphilis (this child was for a long while sickly, and is described as being at present extremely excitable). Fifteen months later, having lost her husband (his death was accidental) and being pregnant, she returned to England and bore a third child, which is now 8 years old and has not suffered from ill-health of any kind. At the date of the patient's visit to me I found the uterus very much enlarged and excessively tender; there was abundant pus-stained leucorrhea, menstruation being profuse and accompanied by pain. Treatment based on the assumption that a syphilitic dyscrasia was

the cause of the symptoms has been followed by satisfactory results confirmatory of that view. As the mother's syphilis in India was recognized and treated, it is not altogether a matter of surprise that she did subsequently bear a healthy child; but it may be that the treatment was not sufficiently long continued, or was not renewed so as to eradicate the dyscrasia,

which after ten years has again betrayed itself.

Constitutional syphilitic disease confined to the cervix may have as its most obvious symptom profuse leucorrhea. A young woman in domestic service—a lady's maid—applied to me suffering from severe leucorrhea. She reminded me that several years before—then very young—she had been under treatment by me in the Middlesex Hospital for secondary She informed me that she was now about to be The speculum showed the cervix large, broad, and somewhat flattened, and upon its surface and around the os gray patches having the same general appearance as the patches of old-standing iehthvosis linguæ. I could discover no distinct enlargement of the body of the uterus. Had the patient not enlightened me as to her past history I should have found difficulty in diagnosis, as she presented no other tokens of old syphilis. She had never been pregnant. The question is whether the condition of the cervix would interfere with pregnancy, and whether, if pregnancy took place, the residuum of syphilis would prevent the patient bearing a healthy child.

A question that opens up a wide field of pathological speculation is the infection of the ovum by the blood of a mother who is herself congenitally or hereditarily syphilitic, and is one that does not appear to have been illustrated by many recorded examples, probably from the rarity of this form of transmission, and as well from the difficulty of obtaining re-

liable data.

Infection of the mother by syphilis of the fetus presupposes that the ovum can receive the syphilitic virus by impregnation—that is, through the semen. That syphilis can be so conveyed, although questioned by some, is almost universally admitted. And yet, it seems to me, one does not meet with children congenitally syphilitic in proportion to the number of fathers who have at some time or other suffered from constitutional syphilis, or with wives who have become syphilized by bearing children to such fathers. I have watched the children of fathers whom I have known to have suffered from constitutional syphilis some years before marriage, and I have not seen them to be marked by a hereditary taint. I acknowledge, however, that the experience of one practitioner taken alone is entitled to little weight in a question of such magnitude. But in such case either the patient had outgrown the syphilitic diathesis, or had been cured, or enjoyed especial immunity. As regards the transmission of syphilis by men who have married in the early months or years after having had primary syphilis, it is far otherwise. Contamination of the wife, and, if she become pregnant, of the fetus, is an almost certain disaster, and under such circumstances the poison remains in the woman, ready to crop up with virulence long after, provided she has not been sub-

mitted to steady and repeated treatment.

The discharges from some of the secondary lesions, or the secretions of some of the mucous surfaces of persons suffering from constitutional syphilis, have a contagiousness not exceeded by the discharges in congenital syphilis, which have been particularly characterized by Diday as differing from those of ordinary syphilis by an infinitely greater power of contagion. It is by such discharges and secretions that the wife becomes directly contaminated—a contamination of which she remains ignorant. The initial lesion produced by contact with an individual the subject of constitutional syphilis may be so slight as to be easily overlooked; it may be a

minute papule or superficial excoriation.

Can a mother who has been syphilized, either directly or through the fetus, ever bear a perfectly healthy child? This is a most vital question. Does the syphilitic diathesis ever exhaust itself? To what degree of saturation with syphilis do repeated pregnancies by a syphilitic husband reach? Is there a law of gradual diminution of syphilitic intensity? Does a diminution of syphilitic intensity modify the appearance of syphilitic symptoms in the offspring, and can treatment help? One word in respect of treatment. I have observed, as doubtless every one else has done, that specific treatment during the course of pregnancy appears to have little effect and does not save the infant from congenital syphilis. I have supposed, in explanation of this, that the fetus, being syphilitic already, as it increases in bulk continues to send a fuller stream of fresh virus to the mother, and thus the specific remedies are neutralized or overwhelmed. But when once the pregnancy is terminated treatment has a fair It must then be steadily put in force, and must be periodically repeated. I believe it is only by the repetition of treatment that immunity can be gained.

There is a maternal condition of vital importance to the child after intra-uterine life—namely, in the mother's capacity as nurse. Infection after intra-uterine life by the milk of the mother, who may have become syphilitic while nursing her child, or by the milk of the wet-nurse under similar circumstances, or who may already have been suffering from syphilis in its constitutional form at the time of her undertaking the duties of foster-mother, is a point that cannot be passed over,

but I anticipate that the opinion of Dr. G. Gallois, that the milk of even a syphilitic wet-nurse is preferable to artificial feeding, will not be indorsed. A case is recorded by Mr. Henry Morris in which infection by the milk of the wet-nurse appeared to be most probably the source of the patient's syphilis. In this case the five children antecedent to the diseased one were healthy, and a subsequent child was also healthy.

## ITEMS.

1. The committee appointed at the last meeting of the American Medical Association to consider the best means for promoting the prosperity of the sections of the Association, will hold an adjourned meeting in the Hotel Cadillac, Detroit, Mich., June 6th, at 3 p.m. Members of the committee are requested to notify the chairman of their intention to be present at this meeting.

The Association will esteem it a favor if each of its members communicate in writing his views concerning the best measures for promoting the development of the sections. Such communications may be sent to John S. Marshall, M.D., 9

Jackson street, Chicago, Chairman of the Committee.

- 2. The Section on Gynecology and Abdominal Surgery at the Pan-American Medical Congress has been organized by the election of Dr. William Warren Potter, 284 Franklin street, Buffalo, N. Y., as executive chairman; Dr. Brooks H. Wells, 71 West 45th street, New York City, as English-speaking secretary; and Dr. Ernst W. Cushing, 168 Newberry street, Boston, as Spanish-speaking secretary. The foreign secretaries of the section so far selected are: The Argentine, Dr. Dn. L. C. Maglioni Llobet, Victoria 737, Buenos Aires; Brazil, Dr. Dn. Luiz da Cunha Feiho, Rio de Janeiro; British North America, Dr. Jas. F. W. Ross, 481 Sherborne street, Toronto, Canada; Colombia, Dr. Dn. José W. Buendia, Calle 10, No. 212, Bogota; Nicaragua, Dr. Juan I. Urtecho, Calle Real, Cindad Granada; Spanish West Indies, Dr. Dn. Gabriel Casuso, Virtudes 37, Habana, Cuba; Uruguay, Dr. Dn. Enrique Peréy, Uruguay 371, Montevideo.
- 3. The Committee on Permanent Organization of the Pan-American Medical Congress met at St. Louis, October 14th, 15th, and 16th, 1891, and adopted a series of General Regu-

<sup>1 &</sup>quot;Recherches sur la question de l'Innocuité du lait provenant de Nourrices syphilitiques" (1877).

lations for the permanent organization and a series of Special Regulations for the government of the first meeting, and recommended that the incorporators adopt both series of reg-

ulations as the organic law of the Congress.

Pursuant to such regulations the following general officers were elected, viz.: President, William Pepper, M.D., LL.D., Philadelphia, Pa.; Treasurer, Abraham M. Owen, A.M., M.D., Evansville, Ind.; Secretary-General, Charles A. L. Reed, M.D., Cincinnati, Ohio. International Executive Committee—Argentine. Dr. Pedro Lagleyze; Bolivia, Emilio de Tomassi; Brazil, Dr. Carlos Costa; British North America, Dr. James F. W. Ross; British West Indies, Dr. Jas. A. De Wolf; Chili, Dr. Moises Amaral; Colombia, P. M. Ibañez; Costa Rica, Dr. D. Nuñez; Ecuador, Dr. Ricardo Cucalon; Guatemala, Dr. José Monteris; Hayti, Dr. D. Lamothe; Hawaii, —; Spanish Honduras, Dr. George Bernhardt; Mexico, Dr. Tomas Noriéga; Nicaragua, Dr. Juan I. Urtecho; Paraguay. —; Peru, Dr. José Cassamira Ulloa; Salvador, Dr. David J. Guzman; Santo Domingo, —; Spanish West Indies, Dr. Juan Santos Fernandez; United States, Dr. A. Vander Veer; Uruguay, Dr. Jacinto de Leon; Venezuela, Dr. Elias Roderiguez; Danish, Dutch, and French West Indies, —.

The Auxiliary Committee nominated by the various members of the Committee on Permanent Organization, each for his own State, and already commissioned by the chairman,

was confirmed.

The election of officers of sections was begun, but time would not permit of the completion of the list, which was referred to a special committee with power to act. It has been deemed inexpedient to publish the list until it is completed, which can hardly be accomplished before the meeting of the Committee on Permanent Organization at Detroit in June; but the organization of particular sections will be announced through the medical press as rapidly as officers are elected by the special committee.

In accordance with the wish of the Committee on Permanent Organization, as expressed in Special Regulation No. 4, Drs. I. N. Love, A. B. Richardson, L. S. McMurtry, R. B. Hall, T. V. Fitzpatrick, and Charles A. L. Reed met in Cincinnati and signed the legal form of application for Articles of Incorporation of the Pan-American Medical Congress, which Articles of Incorporation were duly issued by the secretary of the State of Ohio under date of March 15th,

A.D. 1892.

At a meeting of the incorporators held March 16th, 1892, the following regulations, general and special, recommended by the Committee on Permanent Organization, were formally

adopted as the organic law of the Pan-American Medical Congress in accordance with the laws of Ohio, and all elections held by the Committee on Permanent Organization in accordance with such regulations were confirmed and made a part of the laws of the Congress.

## General Regulations.

1. Title.—This organization shall be known as the Pan-American Medical Congress, and shall meet once in —

years.

2. Membership.—Members of the Congress shall consist of such members of the medical profession of the Western Hemisphere, including the West Indies and Hawaii, as shall comply with the special regulations regarding registration, or who shall render service to the Congress in the capacity of

foreign officers.

3. Officers.—The executive officers of the Congress shall be residents of the country in which the Congress shall be held, and shall consist of one president, such vice-presidents as may be determined by special regulations, one treasurer, one secretary-general, and one presiding officer and necessary secretaries for each section, all of whom shall be elected by the Committee on Organization; and there shall be such foreign vice-presidents, secretaries, and auxiliary committees as

are hereinafter designated.

4. The Committee on Organization.—The Committee on Organization shall be appointed by the representative medical association of the country in which the Congress shall meet. This Committee shall select all domestic officers of the Congress, and shall at its discretion confirm all nominations by members of the International Executive Committee; and in the event that any member of the International Executive Committee shall fail to nominate by the time specified by special regulation, the Committee on Organization shall elect officers for the country thus delinquent. It may appoint vicepresidents and auxiliary committeemen in foreign countries, independently of nominations by the members of the International Executive Committee. It shall appoint auxiliary committees, arrange for the meeting and frame special regulations for the session of Congress for which it was appointed. It shall make a report of its transactions to the opening session of the Congress.

5. The International Executive Committee.—There shall be an International Executive Committee, which shall be appointed by the first Committee on Organization, and which shall consist of one member for each constituent country. This Committee shall hold permanent tenure of office, except that when a member shall fail to be present at a meeting of

the Congress his office shall be declared vacant and the vacancy be filled by election held by the registered members from the country from which he was accredited. In the event of no representation whatever from the country in question, the members of the International Executive Committee present shall determine what disposition shall be made of the office.

It shall be the duty of each member of the International Executive Committee to nominate, from the medical profession of his country, one vice-president for the Congress and one secretary for each section of the Congress, and to forward the same to the chairman of the Committee on Organization; except that in any country in which the Congress shall meet it shall be the duty of the member of the International Executive Committee for that country to request his representative national medical association to appoint a Committee on Organization, which Committee on Organization shall discharge the duties designated in Regulation IV. Members of the International Executive Committee shall also nominate such auxiliary committees and shall furnish such information as the Committee on Organization may request.

6. The Committee on Organization may at its discretion cause the Congress to be incorporated, which incorporation shall hold only until the final disbursement of funds for the session held in that particular country. In the event of such incorporation such officers shall be elected and in such man-

ner as may be required by law.

7. The following shall be considered as the constituent

countries of the Pan-American Medical Congress:

Argentine Republic, Bolivia, Brazil, British North America, British West Indies (including B. Honduras), Chili, Honduras (Sp.), Mexico, Nicaragua, Paraguay, Peru, Salvador, Colombia, Costa Rica, Ecuador, Guatemala, Hayti, Hawaiian Islands, Santo Domingo, Spanish West Indies, United States, Uruguay, Venezuela, Danish, Dutch, and French West Indies.

8. The Sections of the Congress shall be as follows:

(1) General Medicine, (2) General Surgery, (3) Military Medicine and Surgery, (4) Obstetrics, (5) Gynecology and Abdominal Surgery, (6) Therapentics, (7) Anatomy, (8) Physiology, (9) Diseases of Children, (10) Pathology, (11) Ophthalmology, (12) Laryngology and Rhinology, (13) Otology, (14) Dermatology and Syphilography, (15) General Hygiene and Demography, (16) Marine Hygiene and Quarantine, (17) Orthopedics, (18) Diseases of the Mind and Nervous System, (19) Oral and Dental Surgery, (20) Medical Pedagogics, (21) Medical Jurisprudence.

9. Languages.—The languages of the Congress shall be

Spanish, French, Portuguese, and English.

10. Auxiliary Committees.—The Auxiliary Committee shall consist of one member for each medical society, or one for each considerable centre of population in each of the constituent countries of the Congress. Nominations for the Foreign Auxiliary Committee shall be made to the chairman of the Committee on Organization by the members of the International Executive Committee, each for his own country, except that in the country in which the Congress is to be held nominations shall be made by the Committee on Organization. Appointments on the Auxiliary Committee shall hold only for the meeting for which they were made.

Members of the Auxiliary Committee shall be the official representatives of the Congress in their respective localities.

It shall also be their duty:

(1) To transmit to the profession of their respective districts all information relative to the Congress forwarded to them for that purpose by the general officers.

(2) To co-operate with the officers of sections in securing desirable contributions to the proceedings of the Congress.

(3) To furnish to the general officers such information as they may request for the purpose of promoting the interests

of the Congress.

(4) To cause such publicity to be given to the development of the organization as will elicit the interest of the profession and secure attendance upon the meeting, and they shall discharge such other duties as will promote the welfare of the Congress.

## Special Regulations of the First Congress.

1. Time and Place of Meeting.—The First Pan-American Medical Congress shall be held in the city of Washington,

D. C., September 5th, 6th, 7th, 8th, A.D. 1893.

2. Registration.—The registration fee shall be \$10 for members residing in the United States, but no fee shall be charged to foreign members. Each registered member shall receive a card of membership and be furnished a set of the transactions.

3. Abstracts, Papers, and Discussions.—Contributors are required to forward abstracts of their papers, not to exceed six hundred words each, to be in the hands of the secretary-general not later than the 10th of July, 1893. These abstracts shall be translated into English, French, Spanish, and Portuguese, and shall be published in advance of the meeting for the convenience of the Congress, and no paper shall be placed upon the programme which has not been thus presented by

abstract. Papers and discussions will be printed in the language in which they may be presented. All papers read in the sections shall be surrendered to the secretaries of the sections; all addresses read in the general session shall be surrendered to the secretary-general as soon as read; and all discussions shall be at once reduced to writing by the parti-

cipants.

4. Incorporation.—The chairman of the Committee on Organization shall cause the Congress to be incorporated under the laws of Ohio, and fifteen trustees shall be elected, in accordance therewith, who by by-laws and through the Executive Committee shall supervise all receipts and disbursements by the treasurer, in accordance with the laws of Ohio. The president, secretary-general, treasurer, the member of the International Executive Committee for the United States, and chairmen of sections shall be ex-officio members of the Board of Trustees.

5. Foreign Nominations.—All nominations by the International Executive Committee must be in the hands of the chairman of the Committee on Organization by June 1st, 1892, and in default thereof the Committee on Organization

shall elect officers for countries thus delinquent.

6. The Organization of Sections.—The officers of each section shall consist of —— honorary chairmen, who shall be residents of the constituent countries of the Congress; one executive chairman, who shall organize the work of the section, direct its deliberations, and deliver an inaugural address at its opening session; one English-speaking secretary and one Spanish-speaking secretary, residents of the United States, who shall co-operate with the executive chairman in conducting the correspondence of the section; and there shall be one secretary for each section, resident in each ad-

ditional constituent country of the Congress.

7. Domestic Auxiliary Committee.—The Auxiliary Committee for the United States shall be elected by the Committee on Organization and shall consist of one member for each local medical society, or, in the absence of medical organization, then one in each considerable centre of population, which Auxiliary Committee shall co-operate with the Committee on Organization and with the general officers in promoting the welfare of the Congress. Nominations for the Auxiliary Committee shall be made by members of the Committee on Organization, each for his own State, except that in the failure of any member to make such nomination by January 1st, 1892, or in the inadequacy of the same, the chairman of the Committee on Organization shall supply the deficiency.

8. Ececutive Committee.—The Board of Trustees shall

designate seven members, including the president, treasurer, secretary-general, and member of the International Executive Committee for the United States, who shall comprise an Executive Committee, which shall transact all business of the Congress ad interim, in accordance with by-laws adopted by the Board of Trustees.

9. Amendments.—Amendments to these regulations can be made only by the International Executive Committee on a majority vote, ten members constituting a quorum, at any

meeting of the Congress.

Pursuant to the laws of Ohio and the regulations adopted as above, and in accordance with nominations by the Committee on Permanent Organization, the incorporators elected

fifteen trustees as follows:

Dr. W. T. Briggs, Tennessee; Dr. Geo. F. Shrady, New York; Dr. P. O. Hooper, Arkansas; Dr. S. S. Adams, District of Columbia; Dr. H. O. Marcy, Massachusetts; Dr. J. F. Kennedy, Iowa; Dr. H. D. Holton, Vermont; Dr. L. S. McMurtry, Kentucky; Dr. N. S. Davis, Illinois; Dr. Levi Cooper Lane, California; Dr. I. N. Love, Missouri; Dr. Hunter McGuire, Virginia; Dr. J. C. Culbertson, Illinois; Dr. A. Walter Suiter, New York; Dr. C. H. Mastin, Alabama. Drs. L. S. McMurtry (Kentucky), I. N. Love (Missouri),

Drs. L. S. McMurtry (Kentucky), I. N. Love (Missouri), and W. W. Potter (New York) were designated to act as

members of the Executive Committee.

The organization of the Congress is complete in British North America, the British West Indies, the Spanish West Indies, Guatemala, Nicaragua, Colombia, Brazil, Uruguay, Venezuela, and the Argentine. It is confidently expected that the nominations from the remaining countries will be in by June.

It is expected to announce the completed organization of the Congress, its sections and Auxiliary Committees, domestic

and foreign, by July 1st, 1892.

On behalf of the Committee on Permanent Organization,

CHARLES A. L. REED, Chairman.

## THE AMERICAN

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# DISEASES OF WOMEN AND CHILDREN.

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### ORIGINAL COMMUNICATIONS.

CLINICAL AND MICROSCOPICAL ANALYSIS OF TWENTY-FIVE EXTIRPATED OVARIES, WITH SPECIAL REFERENCE TO HEMATOMA.<sup>1</sup>

BY

### FRANCIS FOERSTER, M.D.,

Instructor in Gynecology at the New York Post-Graduate Medical School and Hospital; Gynecologist to the West Side German Dispensary and the East Side Dispensary.

#### (With eight illustrations.)

From a larger series of oöphorectomies I have selected twenty-five ovaries which by their naked-eye appearance can give rise to doubts as to the propriety of such radical operative interference. While the symptoms themselves were sufficient to justify the performance of laparatomy, the removed ovaries offered but slight changes, or even features considered physiological by most modern anatomists. I, under such circumstances, felt the necessity of further investigating by microscopical examination the changes in the structure of these ovaries.

<sup>&</sup>lt;sup>1</sup> Read before the Obstetric Section of the New York Academy of Medicine, March 24th, 1892.

A gynecologist may say ironically that the microscopist finds morbid changes even in apparently normal-looking ovaries; but if he will enter microscopical research he may soon come to the conclusion that in an apparently healthy ovary, which he removed for grave clinical symptoms, he will find well-pronounced pathological changes.

Let us here recall a case of Dalton, quoted in his "Physiology": An unmarried woman, 25 years of age, was a sufferer from uncontrollable ovarian neuralgia for a long time. The ovary was removed by Dr. Sabine, with complete relief to the patient. Dalton himself declared the naked-eye appearance of the removed ovary to be normal; all he found was a so-called corpus luteum of considerable size, so typical in appearance that he pictures the same in his "Physiology" as a corpus luteum of menstruation of the third week. How could a formation of so transitory a nature as a corpus luteum give rise to clinical symptoms which for their relief required so serious an operation! Where is the explanation of the excessive, protracted pain which the young woman suffered, and where is the explanation of the complete recovery after the removal of the ovary? Cases of this description are quite frequently met with by every gynecologist.

Bland Sutton says: "The two largest corpora lutea I found in ovaries removed for purpose of anticipating the menopause in cases of rapidly growing uterine myomata." One of the patients, 40 years old, was never pregnant, while the other, 45 years old, had no child for ten years. Popow speaks of a woman, 41 years old, who died of gangrene of a fibro-myoma of the uterus; she had not borne children for twelve years; the right ovary showed a true corpus luteum. The same author found in a prostitute, 21 years of age, who had never menstruated or conceived, and who died from prussic-acid poisoning, a fully developed corpus luteum. There is no special reference to be found in the statement of these cases as to the amount of pain which these patients suffered, but, if I can draw a parallel between similar cases which I have observed, I am justified in saying that the greater portion of their sufferings was due to the presence of this offending body in the ovary.

Are not such facts alone sufficient to suggest that many of

the bodies usually called corpora lutea are really pathological? The physiologist also speaks of corpora albicantia as the outcome of normal ovulation, the products of shrinkage of a corpus luteum. If now the microscope proves the presence of a large number of such corpora albicantia in ovaries removed for severe clinical symptoms, is not the conclusion logical that many of these bodies are likewise pathological—the more so as the sufferers, after removal of the ovaries, rally in comparatively short time and become strong and healthy? Dr. M. D. Jones has drawn attention to peculiar formations which she designates "endothelioma changing to angioma and hematoma, and gyroma as the pre-stage of endothelioma."

My own researches enable me to corroborate, in a certain measure, this author's statements. It indeed appears that what previously was ealled a corpus luteum is invariably an endothelioma. This formation in some instances is pathological; as such it is always morbid when changes take place-toward formation of hematoma; the physiological corpus luteum or endothelioma of pregnancy represents the only exception.

The so called corpora albicantia, the gyromata, are not always the terminal stage of the corpora lutea, but under the influence of chronic oöphoritis they may represent the prestage of endothelioma. I especially concur with the author named in the view that most hematomata of the ovary are the outcome of endothelioma, being an accumulation of newly effused blood from and within the endothelioma. The presence of coagulated fibrin in the centre of endothelioma may still be considered an unsettled point, which, however, I hope to clear up at some future time after having finished research going in this direction.

I would state beforehand that in the series of these twenty-five cases I have found proof in every one of the ovaries for confirmation of this statement. In order, however, to avoid repetition, I propose to select a few typical cases for analysis illustrating "gyroma, endothelioma, and hematoma."

Case I.—Mrs. L., 32 years of age, married twelve years; had one child four years ago. Menstruation was regular, but varying in amount; lasted from three to five days. She com-

plained of almost constant pelvic pain for two years, the latter becoming very severe before and during menstruation. Her general health suffered to such an extent that she looked pale and careworn; she was unfit to do her housework, as any exertion increased her sufferings. On examination I found the uterus retroverted, moderately fixed by adhesions; ovaries enlarged to twice their normal size, extremely sensitive, and low down in Douglas' pouch.

Palliative treatment for seven months improved her condition very little. She asked to be relieved from her sufferings by an operation.

The extirpated ovaries show so-called small cystic degeneration, especially in one, while the other shows an increased density of the stroma.

Microscopical examination: Under low powers of the microscope we notice a number of more or less sharply defined, peculiarly convoluted formations, already conspicuous to the naked eye by their translucency and satin gloss. These bodies are in most instances well bordered toward the ovarian stroma by fibrous connective tissue, which sends prolongations into the depths of the formation, freely supplied with capillary blood vessels. Here and there such a body appears with a sharp boundary, blending with the adjacent ovarian structure; the convolutions themselves lack blood vessels.

Higher powers of the microscope reveal an almost compact, homogeneous appearance of the convolutions, as if invaded by hyaline degeneration.

The centres of the convolutions are of the same solid structure. The tissue around these peculiar formations shows features of oöphoritis—namely, more or less pronounced infiltrations with protoplasmic bodies.

In the medulla numerous arteries were found obliterated, evidently in consequence of endarteritis, and were of the same hyaline aspect as the convoluted masses themselves. In this instance we have to deal exclusively with a pathological formation termed gyroma, both in the cortex and the medulla of the ovary. Closer investigation revealed the fact that those gyromata lying in the cortex had originated from the walls of previous follicles after rupture in ovulation, whereas the gyromata in the medulla had originated from previous tortuous

arteries after their obliteration from endarteritis and fusion into convoluted hyaline masses.

The cortex exhibited large fields of normal tissue, but strikingly few ova.

Case II.—Mrs. E., 35 years old; had one child four years ago. Menstruation was regular until two years ago, when, after a gonorrheal infection from her husband, she began to complain of the usual symptoms. The menses became very irregular and painful; pelvie distress was constant; from time to time she noticed a colicky pain, which was followed by free discharge of serous pus from the vagina. When she came under my care I found the uterus fixed in retroversion by adhesions; salpingitis on both sides; ovaries enlarged and sensitive. The operation revealed double pyo-salpinx; ovaries enlarged to twice their size, bound down by adhesions: the left ovary cystic, presenting a small abscess cavity, which ruptured while I was trying to bring the ovary into view; the right ovary showed a large number of small cysts.

Microscopical examination revealed in both ovaries socalled small cystic degeneration, oöphoritis, a large number

of gyromata, similar in every respect to Case I.

Case III.—Mrs. S., 36 years of age; mother of six children, youngest child 4 years old. She had complained of pelvic pain ever since the birth of her last child. Menstruation, formerly regular, was becoming more and more irregular and painful, varying in amount greatly. The constant suffering affected her general health to such an extent that she lost flesh—thirty pounds—within the last year. She was unable to do the ordinary housework. Had been under the care of several physicians during the last three years, and was advised to have her trouble relieved by an operation. She came to me for this purpose.

On examination I found the uterus in fair position, moderately movable; in Douglas' pouch a large mass, apparently the hypertrophied ovaries and tubes embedded in a mass of exudation. Excessive tenderness all through the pelvis. At time of operation I found this mass to be a conglomeration of the tubes and ovaries, as anticipated, the latter

enlarged to six times their normal size.

The microscope showed in right ovary small cystic degene-

ration, gyromata in the tissue between the cysts; some of the gyromata so heavily erowded with pigment corpuscles that they appeared of a dusky, grayish-brown or black color to the naked eye. Such formations were known to the older pathologists as corpora nigra. In this case typical pictures of acute and subacute oöphoritis were found both in the cortex and in the medulla. The capsule of the ovary was found thickened in many places, of the same aspect as gyroma with hyaline infiltration, and with numerous pseudo-membranous formations rising from the thickened capsule—obviously the outcome of previous peri-oöphoritis. The left ovary showed about the same features.

Case IV.—Mrs. H., 23 years of age; married, never pregnant. Menstruation regular, but quite painful during the first two days. She complained since her marriage of severe pelvic pain, especially in left ovarian region; had been under treatment constantly with no benefit. The continuous pain had produced a deleterious influence on her general health; she became melancholy and despondent. Graver mental disturbances being expected, I decided to operate for the purpose of removing a large prolapsed ovary of the right side, the organ being extremely sensitive to the touch, and being pointed out at once by the patient as the spot from which all her troubles were arising.

The extirpated ovary was of four times the size of a normal one, apparently cystic throughout. The left ovary, although somewhat enlarged, I left in situ, much to my regret, as the patient, after a period of two years of comfort, is now complaining of the same symptoms as previous to operation and asks me again to relieve her by extirpation of the remaining ovary.

Microscopical diagnosis: Small cystic degeneration; large, mostly solid gyromata, some of them exhibiting a centre composed of a myxomatous or myxo-fibrous reticulum, the offshoots of which blend with the fibrous septa between the convolutions coming from without; pigmentation both of gyromata and the central myxomatous tissue; subacute oöphoritis.

Cases V. and VI.—Histories similar in general to those of above cases. The microscopical examination shows gyromata in various number, partly solid, partly with myxomatous tissue in their centres.

Case VII.—Mrs. B., 32 years of age; mother of two children, youngest child 2 years old. Shortly after the birth of the last child she contracted gonorrhea from her husband. She came under my care six months ago, complaining of pelvic pains, painful menstruation, and inability to allow coitus on account of excessive tenderness of the parts.

On examination I found salpingitis on both sides, enlarged and prolapsed ovaries; on touching the latter great pain was experienced by the patient. After six months of fruitless treatment I extirpated both ovaries and tubes and found pyo-salpinx on both sides, while the ovaries were doubled in size and bound down by inflammatory products.

Microscopical examination: Low powers are sufficient to give an insight into the origin of gyroma. In the cortex we see residues of previous follicles ruptured in ovulation. These consist of slightly convoluted, glossy ribbons enclosing myxomatous tissue. In some instances we notice one side of the ribbon narrow, of the breadth of structureless follicular membrane, whereas the other side is broadened to the treble of the diameter and surrounded by inflamed ovarian stroma. Here we can trace a gradual thickening of the follicular walls up to the appearance of a convoluted gyroma. In the medulla, on the contrary, we see elongated, narrow gyromata located between tortuous, partly permeable, partly obliterated arteries, indicative of the origin of gyroma from arteries solidified by the process of endarteritis.

One of the large gyromata shows convolutions freely pigmented and traversed by a capillary network, partly hollowed, partly solid. The centre of this gyroma is occupied by a large number of slightly altered blood corpuscles. Here we have a hematoma directly arising from gyroma.

Case VIII.—Mrs. H. In this case the ovaries were extirpated, together with a large myo-fibromatous uterus. The history is one of suffering for years, but naturally all complaints were attributed to the existing growth in the uterus. The ovaries likewise showed vascularized gyromata, partly in transition to hematomata. Small cystic degeneration throughout the substance of the ovary.

Case IX.—Mrs. Y., 29 years of age; married ten years, never pregnant. Menstruated regularly, but with great pain

until the flow was established. Had been under treatment several years ago for the main purpose of overcoming sterility. She had complained of severe pain in the pelvis for three years, had several attacks of pelveo-peritonitis within the last two years. All treatment was of no avail, her general health failing considerably during this time.

When she came under my care I found an anteflexed uterus surrounded by a mass of exudation, which latter enclosed the After treatment of four months I decided ovaries and tubes. to operate, the ovaries, especially the left one, being considerably enlarged and very sensitive to the touch. On inspection I found both ovaries hypertrophied to twice their normal size and embedded in inflammatory material, the left ovary presenting a protuberance similar to a corpus luteum of pregnancy.

On transverse section there is visible with the naked eye a body, of the size of a cherry, occupying a third of the whole ovary. It approaches the surface to such a degree that only a very narrow layer of the cortex is left unchanged. With low powers of the microscope this body proves to be a socalled corpus luteum, an endothelioma made up of radiating tracts of much-elongated, nucleated protoplasmic bodies, between which gaps are seen filled with red blood corpuscles, therefore capillary and venous blood vessels. The centre of this body is occupied by a mass of coagulated fibrin enclosing ghost-like remnants of red blood corpuscles.

The mass of coagulated fibrin sends pointed offshoots between the convolutions of the endothelioma, blending with the tracts of fibrous connective tissue running from the periphery toward the centre. Both these tracts and the surrounding fibrous connective tissue, which encircles the endothelioma like a capsule, abound in capillary and venous blood vessels. In the narrow layer of the cortex are a large number of gyromata seen in pronounced hyaline degeneration, and a number of collapsed remnants of structureless follicular walls. The cortex shows numerous apparently normal ova. At the side of the endothelioma a follicular remnant is recognizable, similar to the one depicted in Fig. 3, with a follicular wall half unchanged, the other half changing to gyroma, whereas the centre is occupied by myxomatous tissue. The medulla

of this ovary shows arterio-sclerosis and hyaline degeneration of the muscular coat of the arteries; a small, solid gyroma and clusters of inflammatory corpuscles, the signs of subacute oöphoritis. The capsule of the ovary was found thickened to a considerable extent, the result of chronic plastic perioöphoritis.

Similar features were found in Cases X., XI., XII., and XIII.

Case XIV.—Mrs. F., 40 years old; had one child ten years ago. She had suffered from pelvic distress, not severe enough to call for medical aid, for eight or nine years. Within a year the symptoms had become more grave; bladder troubles set in; profuse menorrhagias occurred and very soon showed their effects on her general health. On examination I found a large myomatous uterus resting on the bladder. She urged me to relieve her by an operation, which was accordingly done. The ovaries were removed at the same time. Under the microscope the right ovary exhibited a number of scattered gyromata, mostly small-sized, i.e., not exceeding the size of a pinhead to the naked eye. Some of these gyromata were amply provided with dark-brown pigment clusters, both within the convolutions and in the surrounding connective tissue. One of these formations, that nearest to the periphery, was the size of a linseed, traversed by waxy trabeculæ, between which protoplasmic bodies have made their appearance (see Fig. 7).

These bodies in some places were scauty, separated from one another by broad remnants of the waxy basis substance; whereas in other places the protoplasmic bodies were in excess over the basis substance, with numerous offshoots branching and connecting with their neighbors.

Higher powers of the microscope revealed the structure of endothelial cells containing numerous glossy, yellowish granules and lumps, so-called lutein cells. The waxy basis substance was of a deep pink color from ammoniacal carmine; the protoplasmic bodies, on the contrary, did not take any carmine, and appeared of a dark-green hue. Obviously, in this instance, an original gyroma begins to change into an endothelioma, with a tendency of producing new red blood corpuscles.

Case XV.-Mrs. R., 28 years old; mother of three chil-

dren, youngest 5 years old. Her complaints date back to the birth of her last child. Menstruation was formerly regular, but changed in character and became painful and seanty. Pelvic pain developed itself within the last year, becoming more severe with every menstrual epoch.

On examination I found a large, very sensitive ovary lying in Donglas' pouch, bound down by adhesions; uterus in normal position, but not freely movable; left ovary apparently normal. The operation consisted in removal of the offending body, which proved to be the right ovary; the left ovary I left in situ, but observation of the patient since has taught me that I should have removed it at the same time. The ovary contained an endothelioma of the size of a cherry pit. without central fibrin. The centre was made up of a dense fibrous connective tissue. The broad convolutions of this endothelioma differed from all others which I have seen in their being made up of a well-pronounced myxomatous structure. A delicate fibrous reticulum contained large fields of a faintly granular myxomatous basis substance, in the centre of which frequently large but not very conspicuous nuclei were met with. Within the nuclei a large, highly reflecting nucleolus was invariably to be seen. Many of the meshes of the myxomatous reticulum appeared empty from dropping ont of the basis substance. There were no traces of red blood corpuscles.

In the same ovary the cortex showed large fields of a myxomatous tissue, without the peculiar convolutions of endothelioma. Even the capsule of the ovary was to a large extent made up of a myxomatous instead of fibrous connective tissue. Outside of the endothelioma a solid gyroma was seen, and another incipient gyroma with a myxomatous centre. Numerous arteries showed the characteristic signs of endarteritis obliterans and arterio-sclerosis.

Case XVI.—Mrs. E., 25 years of age; had three children, youngest 1½ years old. Six months after delivery she began to menstruate, but very irregularly. She noticed at that time an increasing discomfort about the pelvis, especially in her right side, and consulted me. I found the uterus in normal position, but not freely movable; in Douglas' pouch the two ovaries and tubes, both sensitive and enlarged to

three times their normal size. I had treated this patient for about five months when she sent to me in haste, as menstruation, which had been absent for six weeks, had set in profusely and was accompanied by a very severe pain in the right side of the abdomen.

On my arrival I found the patient in partial collapse, extremities cold, profuse perspiration, pulse accelerated and weak, abdomen tender. Vaginal examination revealed a small tumor in the right parametrium, in size twice as large as the hypertrophied ovary of that side. My first impression was that I had to deal with an ectopic gestation of early date which had ruptured, or at least was ready to rupture, into the abdominal cavity.

I operated a few hours later and found a hematoma of the ovary of the right side, holding about two teaspoonfuls of fluid blood; the left ovary I extirpated at the same time, as it showed chronic inflammatory changes.

A section through the longest diameter of the ovary shows numerous cysts, varying in size from a pin's head to a split pea, therefore the image of small cystic degeneration of the pathologists. The tissue between the cysts appears dense, almost cicatricial.

Low powers of the microscope revealed in the ovarian tissue remaining between the cysts a number of gyromata, varying in size, partly colorless, partly abounding in pigment clusters. Near the periphery a mass of the size of a small hazelnut was seen, which in the fresh condition of the specimen appeared to be blood. Under the microscope, only the centre of this formation proved to be made up of red blood corpuscles, whereas the periphery all around showed the characteristic features of an endothelioma, with flat, as if expanded, convolutions. Between the zone of the endothelia and the central blood was a thin layer of a dense fibrous connective tissue, with numerous interspersed clusters of red blood corpuscles.

The endothelia themselves were crowded with glistening discs of a yellowish tint—pigment bodies probably derived from degenerated red blood corpuscles. Between the endothelia large gaps were seen, filled with red blood corpuscles, inosculating with large veins in the capsule surrounding the

endothelioma. In this instance an original endothelioma or corpus luteum has evidently become a hematoma.

In several of my own cases the hematoma, after having reached the size of a hickorynut, or even an English walnut, ruptured the capsule of the ovary and produced a secondary fresh hematoma in the loose connective tissue between the folds of the broad ligament.

Case XVII.—Mrs. W., 26 years old; had three children, youngest 2 years old. She had complained, ever since the birth of the last child, of severe pain in the left ovarian region; had been under treatment with little or no result.

On examination I found a small but very sensitive ovary on the left side of the uterus, evidently bound down by adhesions; uterus slightly retroflexed; right ovary enlarged and descended into Douglas' pouch. Treatment of several months proved to be of no avail; patient had to seek her bed on account of the severity of pain after the slightest exertion. I decided to operate. Left ovary proved to be small, but

I decided to operate. Left ovary proved to be small, but three-quarters of the stroma was taken up by an endothelioma, while the right ovary showed the picture of chronic oöphoritis.

Under the microscope the endothelioma showed well-marked convolutions. The centre was taken up by coagulated fibrin and red blood corpuscles; the latter found issue toward the periphery of the endothelioma near the surface of the ovary, where the connective tissue of the capsule appeared crowded with red blood corpuscles. The capsule gradually tapered to an extremely thin film and was ruptured to the extent of a pin's head.

The remaining cases, XVIII. to XXV., present about the same clinical and microscopical features as the last three which I described.

In order to enable all interested in the morbid anatomy of the ovary to control my descriptions, I will describe the method followed by me, which is the one in common use in the laboratory of Dr. C. Heitzman, under whose kind advice and assistance these researches were carried out.

Freshly extirpated ovaries are placed in alcohol and kept there for some length of time, then transferred to a solution of chromic acid of the strength of one-half of one per cent, i.e., wine-yellow. This solution must be renewed as soon as it becomes slightly turbid, say every three or four days, until the liquid remains limpid. The organ assumes a yellow-brown tint in about one week.

Alcohol specimens sliced for microscopical purposes will never exhibit the clearness of image seen in specimens hardened and stained by the chromic acid solution.

For staining I have resorted to solutions of hematoxylin, picro-carmine, and ammoniacal carmine, of which the latter seems to answer all purposes.

The mounting was invariably done in chemically pure glycerin (Merck's).

Previous observers have, almost without exception, attributed most of the morbid features of the ovaries that I have described to processes connected with ovulation, and particularly to the evolution of the corpus luteum. Formations so common in the ovaries that some contain half a dozen of them in one section, characterized by a firm structure, numerous convolutions, and a waxy appearance, had been thought to be a retrogressive metamorphosis of a corpus luteum.

Dr. M. P. Jacobi has already recognized the pathological nature of these formations. Patenko describes under the term corpus fibrosum similar structures which he found in the ovary; he explains their existence by a fibrous change of the corpus luteum itself. He says these bodies may attain the size of a hen's egg—a point in which I cannot support him from my present experience.

The term gyroma has been applied to these formations. Our attention also has been drawn to the fact that such peculiarly convoluted bodies are by no means confined to the cortex of the ovary, but are found quite frequently at the boundary between cortex and medulla, or even in the medulla alone; which latter fact would almost exclude their origin from a previous follicle. In the latter instance it has already been shown that tortuous arteries, solidified by the process of endarteritis obliterans, are sometimes the initial stage of a gyroma. The sizes of such bodies are greatly at variance. Gyromata have been seen occupying almost two-thirds of the ovary. They were found either solid or with a

central nucleus of myxomatous tissue, containing red blood corpuscles (see Fig. 1).

In the medulla I have met with only solid gyromata, usually not exceeding the size of a pin's head or a flaxseed; whereas the named varieties invariably occurred in the cortex.

Among the varieties I would also enumerate pigmentation of the convolutions and their vascularization through newly formed capillaries, which secondarily inosculate with arte-

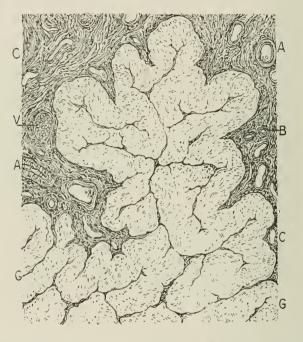


Fig. 1.—Solid gyroma.  $\times$  100. G G, gyroma traversed by delicate tracts of fibrous connective tissue: C C, newly formed inflamed fibrous connective tissue; A A, arteries with slight sclerosis and hyaline degeneration; V, vein in transverse section; B, capillaries.

rioles and veins previously present in the mass of the gyroma. Whenever I have met with gyromata I have invariably found a more or less pronounced morbid change in all the constituent tissues of the ovary. I have usually met with chronic oöphoritis in the immediate vicinity of the gyroma, and in scattered nests throughout the cortex and medulla. Another constant morbid change was endarteritis (see Fig. 2), sclerosis or arterio-fibrosis, and hyaline degeneration of the arteries to a varying extent. Sometimes residues of previous peri-

oöphoritis were discernible—that is, a thickened capsule of the ovary, or a capsule beset with knobs or with peritoneal pseudo-membranes.

Since formations of this description are not found in the ovaries of the eow, the pig, and sheep, which I have studied carefully, I do not hesitate to call them morbid. In the ovaries of these animals I have occasionally met with solid convoluted bodies, split up radiatingly into fibres, but never hyaline to the extent of gyromata in human ovaries.

The description of these formations in animals I wish to defer to some future time.



Fig. 2.—Endarteritis obliterans and arterio-sclerosis; a future gyroma.  $\times$  500. G, segment of a large gyroma; C C, inflamed fibrous connective tissue; M, bundle of smooth muscle fibres in oblique section; A, artery in transverse section.

It is a peculiar fact that whenever an ovary contains gyromata in varying numbers such an ovary is the source of distress and pain to the bearer. Whether or not the emaciation and impairment of the general constitution are eaused by the presence of gyromata, or, on the contrary, are the outcome of a constitutional ailment, I am unable to say.

The painfulness of ovaries of this type is attributable to the chronic opphoritis invariably present. It may, however, be due to the tension of sensitive nerves caused by the growth of the gyroma. Thus far I have been unable to trace nerves into or within gyromata. As to the origin of gyroma, scarcely a doubt is left that the structureless wall of a follicle ruptured in ovulation is the main if not the only source in the cortex.

Figure 3 clearly illustrates the process under consideration. The result of a normal ovulation will be a collapsed and convoluted, structureless follicular membrane, surrounded by or enclosing a certain amount of myxomatous tissue. If now the collapsed follicular wall grows and becomes thickened

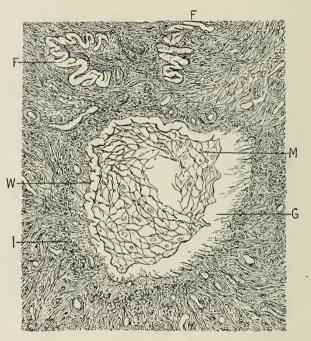


Fig. 3.—Beginning formation of a gyroma from a follicular wall.  $\times$  100. F F, collapsed follicular remnants; W, wall of follicle, not widened; G, considerably widened portion of follicular wall, the future gyroma; M, myxomatous tissue filling the ruptured follicle; I, inflammatory zone around ruptured follicle.

under the stimulus of chronic oöphoritis, convolutions will be the result which are more or less waxy and either solid or retaining a myxomatous nucleus. I have observed in several instances pigmentation and vascularization of gyromata—a fact, as far as I am aware, not previously described (Figs. 4 and 5).

A peculiar feature of these gyromata consists in the fact that they contain more or less red blood corpuscles derived probably from ruptured thin-walled newly-formed capillaries. Under the name of endothelioma formations have been described which apparently are identical with what for two centuries have been known by the name of corpora lutea (Fig. 6). While gyromata may be found in one ovary in varying numbers, endothelioma is without exception a single formation, as far as my experience goes. Endothelioma is invariably an ontcome of ovulation, a growth of the follicular

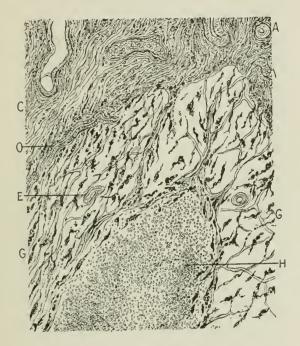


Fig. 4.—Pigmented and vascularized gyroma, with a central hematoma in formation.  $\times$  100. G G, gyroma traversed by branching pigment clusters and a capillary network; E, arteriole in the wall of the gyroma; H, effused red blood corpuscles; O, arteriole at the border of gyroma: C, inflamed fibrous connective tissue; A, sclerotic artery in transverse section; V, vein in connection with capillaries traversing the wall of the gyroma.

wall minus the zona granulosa. Similar formations are found in the pregnant cow, pig, and sheep.

No doubt there exists a corpus luteum of pregnancy which in its essential features is an endothelioma, and as such is possibly the outcome of pelvic hyperemia during pregnancy, with a typical progression in its development and a retrogression to a complete disappearance after the delivery. The corpus luteum of menstruation, however, seems to be in some instances a mooted formation.

In my own experience a large number of so-called corpora lutea of menstruation are endotheliomata of a pathological type. They grow, under the influence of chronic oöphoritis, without coming to a typical end, or gradually increasing in bulk and frequently leading to the formation of hematoma under incessant local and constitutional trouble.

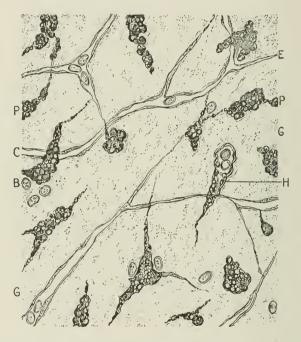


Fig. 5.—Pigmented gyroma with new formation of capillary blood vessels.  $\times$  500. G G, faintly granular basis substance of gyroma; P P, pigment clusters, branching; C C, capillary blood vessels, partly in formation; H, club-shaped pigmented body; B, red blood corpuscles.

If viewed in this light the corpus luteum of menstruation is not only a stable but rather progressive product of inflammation, lasting for months and years, and is a fertile source of bodily and mental sufferings to the bearer; the corpus luteum of pregnancy may eventually turn out pathologically in the same manner. Among the causes leading to the production of a pathological endothelioma in woman is an intense hemorrhage at the time of ovulation. As mentioned

above, the corpora lutea of animals thus far examined by myself lack a central clot, whereas such a clot is invariably present in endothelioma of women. The clot is either blood or coagulated fibrin, or a mixture of both. When fibrin alone is found the blood corpuscles have either disappeared completely or they are in the condition termed "ghosts"—that means, faint shells of previous red blood corpuscles entirely destitute of stroma and hemoglobin.

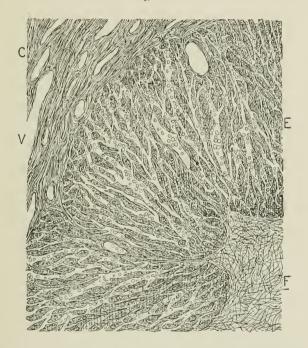


Fig. 6.—Endothelioma.  $\times$  100. E, convolutions made up of endothelia, between which are blood vessels; C, capsule of endothelioma, made up of loose fibrous connective tissue; F, coagulated fibrin filling the centre of endothelioma; V, blood vessels, partly venous, partly capillary in nature.

The hemoglobin is in many instances taken up in solution by the elements of the growing endothelioma, rendering them yellowish and unfit for a stain with ammoniacal carmine; hemoglobin will also explain the formation of pigment clusters in certain gyromata.

Gyroma is often the pre-stage of endothelioma. This is shown by the appearance of pale, faintly defined bodies within the basis substance of the gyroma (Fig. 7).

The protoplasmic bodies, lacking the carmine stain, at least increase to such an extent that only scanty, as if corroded, remnants of the gyroma are left, while the greater portion of the gyroma has become an endothelioma and hematoma. The endothelioma may change into myxomatous tissue.

In one of my cases (Fig. 8) the myxomatous nature of the endothelioma was specially well pronounced. Here some of the meshes contained nucleated protoplasmic bodies of large

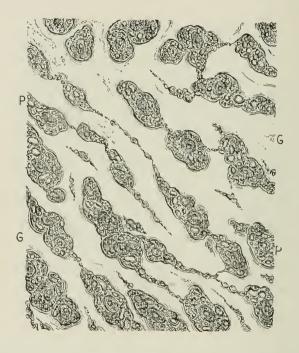


Fig. 7.—Gyroma changing to endothelioma.  $\times$  500. G G, gyroma in pronounced hyaline degeneration; P P, protoplasmic tracts holding numerous red blood corpuscles.

size—i.e., endothelia. Other meshes held a faintly granular basis substance with a central, unchanged nucleus. Still other meshes appeared completely transformed into myxomatous basis substance. I lay stress upon this histological feature, for it assists us in explaining the structure of the corpus luteum both in men and in animals, which explanation has not satisfactorily been given by previous authors.

Gyroma may occasionally become converted into a hema-

toma; endothelioma quite frequently leads to the production of hematoma.

Ovaries extirpated by myself during or shortly after menstruction invariably showed a small hemorrhagic spot at the surface of the organ, which on section under the microscope proved to be a recent hemorrhage into and around the ruptured follicle. This hemorrhage I consider the result of normal ovulation. In the vicinity of an endothelioma there are numbers of large varicose veins, and sometimes aneurismic

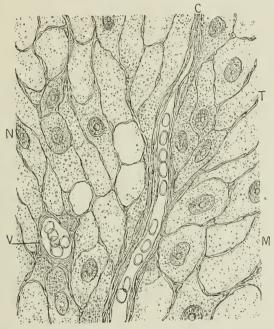


Fig. 8.—Myxomatous endothelioma. × 500. C, tract of fibrous connective tissue carrying a capillary blood vessel; T, trabeculæ of delicate fibrous connective tissue; M, myxomatous basis substance; N, nucleated field of myxomatous basis substance; V vein in transverse section.

arteries, which occasionally may rupture and cause a hemorrhage either close beneath the capsule of the ovary or into adjacent cysts.

A third fruitful source of disseminated hemorrhage into the substance of the ovary (hemorrhagic infarction), as well as into cystic cavities, is the ligature of the blood vessels of the ovary preceding its extirpation. A ligature may close the calibres of the veins before effecting a closure of the arteries, and this interruption of the efflux of blood will suffice to explain the occurrence of fresh hemorrhage throughout the ovary. Aside from these causes of hemorrhage, we frequently meet with sometimes considerable clots of blood either in the substance of the ovary or beneath its capsule. and such hematomata are invariably the outcome of a previous endothelioma. All hematomata of large size which came under my observation proved to be the result of endothelioma. Should such a hematoma approach the surface, it will lead to a gradual thinning of the capsule, and at last to its rupture with a hemorrhage into the peritoneal cavity or into the broad ligament.

The clinical symptoms which for months and years have tended to prove the presence of an endothelioma or hematoma, will after the rupture become alarming and urge upon us the immediate performance of laparatomy and the excision of the diseased ovary.

The removal of the ovary is justified in the presence of endothelioma or hematoma, since we can expect complete recovery as the result. As both gyroma and endothelioma are the outcome of a chronic inflammatory process—that is, oöphoritis—and this process we know to be frequently bilateral, the removal of both ovaries may be recommended as soon as endothelioma or hematoma is found in one of them, and particularly when the organ looks in any way suspicious.

In my experience I have reason to regret many times that I was too conservative, since the ovary left in situ caused disturbances similar to those for which the primary operation was done.

## SEPTIC ENDOMETRITIS WITH PERITONITIS,

AND THEIR TREATMENT BY MEANS OF THE CURETTE AND ANTISEPTIC DRESSINGS.

BY

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This is the second time I have ventured to write on this subject this year, but I must plead its importance as excuse for my assurance. Before entering into the discussion of the

question of treatment I will give a short description of the uterine mucosa and the lymphatic arrangement of the organ. This description is merely a résumé, and those wishing to go more deeply into the study of the mucosa uteri are referred to the works of J. Bland Sutton. Arthur Johnstone, and more especially that of Leopold. The lymph channels of the cervix do not enter the substance of the broad ligament, but pass to the obturator glands. Malignant disease and sepsis arising from the cervix will first affect those glands, and not the lymph spaces in the broad ligaments. Therefore these lymphatics do not materially interest us.

But it is far different with the uterine mucosa proper.

The true character of this membrane is still in dispute and question. I can do no better to express my own views as to its nature than by quoting Hart's summary of Leopold's article: "In the mucosa uteri we have delicate bundles of connective tissue covered by endothelium, the spaces between these bundles forming lymph spaces lined by endothelium. The membrane of the uterine glands is made of a very fine connective tissue, also covered by endothelium, and the blood vessels have also lymph sheaths about them (perivascular lymph sheaths), increasing with the size of the vessels. At the muscular layer the lymph spaces extend a little into the funnel-shaped hollows between two muscular bundles and then narrow into the intermuscular spaces. In the muscularis we have lymph sheaths and lymph spaces, the former with little chinks in them. The lymph vessels are most abundant in the external muscular layer, and are connected with the lymph vessels of the mucosa and serosa, and run into large canals at the side of the uterus. The serosa has lymph vessels only, arranged in a network; and while less numerous than those in the subserous tissue, they are much larger. Thus the lymph passes from the mucous membrane lymph spaces into the spaces and vessels of the muscularis, surrounds all the muscular bundles here up to the serous coat, and then passes into large tubes in the broad ligaments. The uterine mucosa is, then, either an open lymphatic gland, or a lymphatic surface intersected by glands and blood vessels, the

<sup>&</sup>lt;sup>1</sup> Trans. Brit. Gyn. Soc., vol. ii.

<sup>&</sup>lt;sup>2</sup> Archiv f. Gyn., vol. vi.

lymphatics being not mere vessels but spaces between the bundles of connective tissue."

• This description of the mucosa uteri is not entirely satisfactory to me, and upon it we cannot account for all the properties of the uterus; but it serves the purpose for which I quote it, viz., to show the generous lymphatic arrangement, and especially the direction of the lymph channels.

If this minute anatomy of Leopold be correct, micrococci travelling from the mucosa along the lymph channels will first cause a metritis, next a lymphangitis in the broad ligaments with septic inflammation of the peritoneum, and the extension of malignant disease will be along the same channel. And such we know is indeed the case. This description also accounts for the fact that in septic infection of the peritoneum from the uterus we generally find advanced lesions about the adnexa before the serosa of the fundus is involved.

Paths for Extension of Sepsis from the Mucosa.—These are three: The direct continuity of the lining membrane of the Fallopian tubes, the lymphatic system, the veins; and I have named them in the order of their importance as carriers of sepsis.

When pathogenic micrococci pass into a Fallopian tube, they find evidently a culture medium for their propagation more fertile than the mucosa uteri, and the effect is rapid and startling. The abdominal opening of the tube becomes very soon occluded, either by a gluing together of the fimbriæ or else by the attachment of the tube to some adjacent structure, usually the ovary. And it is an interesting fact that when the septic infection passes this way the uterine end also of the tube very soon becomes closed, as a general thing. Why this occurs I am unable to state, unless it be due to a mere mechanical closure from thickening of the Fallopian mem-Certain it is that in the vast proportion of cases septic infection of the tube becomes very early entirely shut off from the general peritoneal cavity and also the uterine. Thus it is that we rarely find infection following this course, and no other, terminate fatally; the peritonitis here, as in all other cases of infection, being beneficent and for the one purpose of protection against further extension of the sepsis.

This, I believe, is the sole manner in which pyo-salpinx may occur—direct extension by continuity of surfaces, from uterine cavity to tube.

The abdominal end of the tube may first become occluded by a peritonitis which has been caused in a number of ways,

Polk ignores absolutely the rôle played by the lymphatics, and discusses the relationship of diseases of the adnexa to endometritis as though the tubes were the sole carriers of the sepsis.

sepsis.

But pathogenic germs have other means of reaching the peritoneum, more slow, but with the possibility of doing infinitely more injury. Rarely is the extension limited to passage through the tubes. It is generally at the same time through the lymph channels. More often, I am inclined to think, do we have the septic process extending along the lymphatics alone than by the tubes alone. And, further, whereas such extension through the tubes may be cut short by the closure of the fimbriated end, no such fortunate result can come where the absorption is through the lymphatics, but the infection is entirely dependent upon, and solely limited by, the supply of sepsis from the mucosa uteri.

A sudden acute infection may take place, producing a pyo-

A sudden acute infection may take place, producing a pyo-A sudden acute infection may take place, producing a pyosalpinx, and the lymph channels will continue to carry to the peritoneum of the broad ligaments an endless though intermitting supply of micrococci. In this way, I think, we may explain those repeated attacks of outpouring of plastic lymph by the peritoneum which occur in the presence of a pyosalpinx, and which are so frequently characteristic of that lesion. The original septic endometritis remaining, the supply of pathogenic germs is most liberal, and a continuous lymphangitis extends from the endometrium to the lymph spaces in the broad ligaments, etc., without a single intervening gland to momentarily arrest its progress.

When the path of the infecting process is by means of the

When the path of the infecting process is by means of the lymphatics alone, a most interesting variety of lesions may be produced. The first result of the arrival of the sepsis in the subperitoneal lymph spaces is the free pouring out by the peritoneum of serum, plastic lymph, and leucocytes, one or all of them, according to the severity of the induced perito-

nitic inflammation. The plastic lymph produces a more or less widely distributed agglutination of the pelvic viscera, and this may take place in such a way as to completely shut off the pelvic cavity from the general peritoneal sac. If the source of sepsis be now cut off, the inflammatory process will stop, unless it be markedly purulent; the wonderful absorptive property of the peritoneal lymphatics will take up the thick plastic membrane, except where very well organized and supplied with new vessels, in which case bands of adhesions will result. In this way is the abdominal end of a tube absolutely closed and all the forms of distortion of the broad ligaments, adhesions, etc., produced.

Possibly a less severe form of inflammation may already have closed the uterine end of the tube. We will then have produced a cyst of retention with clear contents—a hydrosalpinx.

It is not always the case that a septic infection of the mucosa with extension to the peritoneum will be sufficiently severe to produce any one of the gross lesions of the adnexa. There may be a limited or localized supply of sepsis and the subject recover from all acute symptoms. Such cases we frequently see with deviations and flexions of the uterus, with a purulent uterine discharge and a "tender spot" in one broad ligament. No explanation is possible of this tender spot other than to ascribe it to a continuous absorption of septic material, a lymphangitis, affecting a limited area. Removal of the source of sepsis will soon cause this tender spot to disappear. The adhesions, organized connective-tissue bundles covered by peritoneum, resulting from peritonitis, are not due to sepsis directly. They are to be considered merely as a sequela of a previously existing condition. As I have stated above, I look upon peritonitis as rather a beneficent condition. It is not a disease, but is merely an indication that there is going on a malevolent process somewhere which the outpouring of peritonitic lymph seeks to check; and this outpouring will continue so long as the supply of sepsis remains and there are channels for conveying it. This lymph tends to confine the noxious process within one locality; its absorption is rarely complete, but it tends in spots to become organized into bands, adhesions, etc. The presence of such bands and old adhesions

shows that at some time there has been a septic endometritis or salpingitis. The existence of these bands and adhesions is of course unfortunate, as they tend indirectly to the causation of other lesions. When I say that acute peritonitis is a beneficent process, I refer merely to its immediate effect as a check to the progress of septic infection. Were there not this outpouring of recent lymph there would be a septic lymphangitis extending from the uterus to the diaphragm. As to the particular forms of pathogenic germs causing the septic process in any given case we cannot determine absolutely. But clinical observations, together with experiments by bacteriologists, throw a great deal of light on the subject. Martineau, in 1877, noticed the close relationship existing between metritis and peri-uterine inflammation, and ascribed it to the action of the lymphatics. The elaborate work of Leopold above cited certainly indicated the same intimacy between the two conditions. It has remained for the surgeon of 1892 to look to the tubes as the sole carriers of sepsis from the endometrium to the peritoneum; he being brought to this opinion because at his operations he finds the tubal the grosser lesion.

The pathogenic cocci causing septic endometritis and peritonitis are three, viz., gonococci, staphylococci, and streptococci. The following facts are fairly well established regarding septic infection of the peritoneum from the uterus: Gonococci do not affect the lymphatics. Gonorrheal infection of the peritoneum comes from the tubes and must therefore be but partial, inasmuch as the latter are always closed early in the infection. Understand me, the tubal lesion may be of the grossest kind when due to gonorrhea, but the peritoneum in such cases is affected to only a limited extent. Gonorrheal peritonitis without salpingitis is hardly a possibility. Thus we find in childbed cases afflicted with gonorrhea, where the lymphatics and sinuses are at their largest, such a thing as peritonitis from gonorrheal infection is rare, as also is disease of the tubes from this cause. Hence we often find the new-born child afflicted with various gonorrheal diseases—stomatitis, conjunctivitis, and vulvitis—from a clappy mother, and yet the latter goes scot-free from any

<sup>&</sup>lt;sup>1</sup> Trans. Internat. Med. Cong., Copenhagen, 1884.

<sup>&</sup>lt;sup>2</sup> Sänger, Archiv f. Gyn., vol. xxv.

complications of the gonorrhea other than a vulvo-vaginal abscess. Of all the pathogenic germs the gonococcus is the most delicate, most perishable, and most exacting in the matter of its residence. The normal uterine membrane will not tolerate its presence. Clinically, the interior of the tubes, secreting as they do a fluid little else than blood serum, seems to be a propitions culture field for gonococci. In this way it is possible to have a pyo-salpinx result from the specific vaginitis without apparent infection of the endometrium; and although in few cases of pvo-salpinx can we cultivate cocci from the pus they contain, it does not argue against the cocci as the etiological factors in such cases. The most probable explanation of this failure to find cocci is that they are dead and so changed that some method of staining other than those we now possess must be employed to find them. Bacteriologists tell us thus much—that the gonococcus is a most difficult germ to cultivate; that it is exceedingly perishable in the genital tract, and therefore that its extension to the normal uterus and tubes must be rare. With the staphylococcus the story is far different. These germs are energetic, have great vitality, flourish in any kind of tissue where blood enters, and are therefore most vicious. They are carried more rapidly by the lymphatics than by direct tissue extension, and seldom select the veins as a route until the lymphatics are already stocked with them. As applied to the uterus, the interpreta-tion is as follows: Purulent infection of the endometrium can reach the peritoneum by two paths, the tubes and the lymphatics. Since the tubes early close when infected, the extension in this way must be a limited one, no matter how serious the tubal complications be, short of rupture; but there is no check to the amount of infection, or length of time through which it may continue, where the lymphatics are the carriers and the supply persists. Innumerable clinical as well as other facts show us that the lymph channels are the most usual, most persistent, and most serious carriers of this form of septic infection. They are universally to blame for the so-called puerperal fever. We now know the cause of this trouble: it is not gonococci and not bacilli, but staphylococci and streptococci, whose natural history and paths of extension are perfectly well known. Long before there is

tubal disease developed in post-partum cases do we find the lymphatics and peritoneum involved. I am fully aware that I take rather a positive stand in this matter, when we consider the diversity of opinion entertained by the most eminent investigators. But where operations, post-mortems, and clinical observations are substantiated by bacteriological work, I must accept the evidence they adduce.

Sänger maintains that gonorrhea is the most frequent cause of disease of the adnexa. He denies the evidence submitted by the most careful microscopists, and refuses to accept the gonococcus as an invariable and essential factor in the causation of gonorrheal affections. He even denies the ability of those who adopt the conclusions of Neisser 2 to isolate this coccus. We now know how mistaken Sänger was when he gave expression to his doubts as to the identity of the gonococcus. As to the deductions which he has drawn from his clinical material, he is undoubtedly wrong. By far the most carefully written essay on this subject of the pathogenic factors in disease of the adnexa is that of A. Martin. He gives an analysis of the enormous number of two hundred and eighty-seven cases of salpingitis. In one hundred and forty-seven cases either acute or chronic endometritis was the cause; in seventy cases the puerperal processes, like abortions; fifty-five cases had gonorrhea; three had recent syphilis; and ten were tubercular. In the one hundred and fortyseven cases over one-quarter were bilateral. The feebleness of the gonococcus in the female genital tract is very marked in the parturient woman. It appears that a gonorrheal woman runs, in the first few weeks after labor, little more risk of puerperal infection than any other puerperal woman (Sänger). But when she has ceased to be puerperal, then she is liable to the complications incident to gonorrhea. It seems probable that squamous epithelium of the adult vagina. the endometrium of the puerperium, and even the normal endometrium of the nulliparous uterus, have great resistant power against the propagation of gonococci. Certain it is

<sup>&</sup>lt;sup>1</sup> Archiv f. Gyn., vol. xxv.

<sup>&</sup>lt;sup>2</sup> Central. f. die med. Wiss., vol. xvii.

<sup>&</sup>lt;sup>3</sup> Zeitschrift f. Geb. u. Gyn., vol. xiii.

<sup>&</sup>lt;sup>4</sup> Bumm, quoted in Finger's "Die Blen. der Sexualorg.," etc., 1888.

that gonorrhea runs a shorter course in the female than in the male, and with less risk of complications. It seems that the urethra, rather than the vagina, is the natural habitat of blennorrhea in the female. I may add to this my own view, that the vulvo-vaginal gland is a most frequent and common source of gonorrheal affection, even where there are no other evidences of disease apparent. Were the gonococcus so much at home in the uterus as Noeggerath and Sänger would lead us to believe, tubal diseases among prostitutes would be much more common. That they are particularly prone to tubal and peritonitic troubles must be admitted; but abortion, violence, intemperance, and the abuse of every law of health play a more prominent part than does gonorrhea as causes. Furthermore, inasmuch as one of the usual and first results of septic infection of the tube by cocci is the firm and lasting closure of the tube, peritonitis resulting from gonorrhea must be of a limited extent. Mercier 2 reports a very typical and valuable case of a strumpet who died while suffering from gonorrhea. The autopsy showed the uterus deeply infected, the tubes distended by muco-pus with the fimbriæ closely adherent, and the peritoneum healthy.

Cases of salpingitis operated upon or revealed by autopsy, and furnishing the gonococcus in the tubal contents, presented a most limited peritonitic involvement, although in some there was the most profound destruction of ovaries and tubes by purulent infiltration.

E. Winter of furnishes valuable data regarding the frequency of invasion in the genital tract by cocci. He performed forty operations (clean, not suppurating cases). He found no microorganisms in the tubes, none in the endometrium of the fundus; in fifteen cases they were about the os internum, and the secretion of the cervix was loaded with them. The staphylococci predominated.

A. Döderlein states that the normal uterus contains no germs of any sort, but that the normal vagina at all times shows the most varied kinds. In diseased purperal cases

<sup>&</sup>lt;sup>1</sup> Fränkel's "Bacteriology," 1891.

<sup>&</sup>lt;sup>2</sup> Vide Finger's work.

<sup>&</sup>lt;sup>3</sup> Zeitschrift für Geb. u. Gyn., vol. xiv.

<sup>&</sup>lt;sup>4</sup> Archiv f. Gyn., vol. xxxi.

only were streptococci extensively found. It seems, then, that against all cocci the normal endometrium has a decided resistant power; that the vagina possesses it against the gonococci to a great extent; that the tubal membrane is most susceptible to destructive processes due to cocci; that gonococci do not enter as factors in causing the various conditions classed under the heading of puerperal fever; that before puberty the vagina is exceedingly sensitive to the gonorrheal poison; that gonococci extend their habitat by continuity of surface only; the staphylococci, in addition to this means of progress, also affect the lymphatics; that the streptococci, when present, extend in the same way as do the staphylococci; hence it is that by far the most frequent, pernicious, and intractable form of septic infection is due to the staphylococci.

Undoubtedly there is a mixed form of infection, and any two or all three of these pathogenic germs may be present in the same case. The very exceptional existence of the streptococcus pyogenes in the female genital tract is admitted by every one. It is only in puerperal cases and those much advanced in infection that it is found. It certainly appears, then, that the sound genital canal of a woman has a resistant action against the various pathogenic germs, but that they exist in the vagina and cervix in very many cases, even while these are apparently healthy. This fact is a matter of clinical importance. The healthy endometrium is not propitious, so it requires the introduction of the sound, or the brushing off of the epithelium of the endometrium by some such procedure, in order that infection may take place. There is a milky exudate from some endometria which is not of inflammatory origin. The chylous fluid is unirritating, nonseptic, and the very common attendant upon flexures of the uterus and atrophic changes in the endometrium.

Treatment.—To whom I shall award the credit for the discovery of the curette I am unable to positively determine. Its early use is associated with a great many different names. But its inventor should be found out, for he should be immortalized. Its range of application is greater than any other instrument used in gynecology. It is about the only instrument this branch of our art has contributed to the surgeon's case. In speaking of the curette I of course mean the sharp

instrument. It is but a knife differentiated in shape from other knives to suit the unique organ upon which it is to be used. And as its use must be guided by the sense of touch, skill in its employment must be largely measured by the manual dexterity and delicacy of touch of the operator. Therefore, in determining the value of the curette and the operations done with it, we must take into consideration the individual skill of the operator; we must strive to eliminate the personal equation and consider the operation only when done by those most skilled in the use of the instrument and who obtain the best results with it; accept that test alone which has been the most severe and most critical, and those observations which have been the most conscientious and scientific. If a new procedure is tried by one who is hampered by pre-antiseptic training and experience, and who is wedded to a method born of ancient anatomy and empiricism, surely it has fallen into bad hands. The progressive men, the men whose art is based on science, the men who get the good results, are the ones to sit in judgment on new procedures. The duty, then, of one who has an idea is first to try it himself, and then submit both reason and operation to the profession. If there be merit in his procedure it is certain of detection and appreciation, and no amount of ex-cathedra denunciation can outweigh successful experience. Therefore, comforted by the knowledge that I have saved my patients from laparatomy in several instances and have benefited them in all, I have, in a published article and several times before the Obstetrical Society, advocated the use of the curette in the class of cases under discussion. As the method has been most severely criticised, and I for daring to employ it, I deem it best to give the data which gradually have led me to do the operation I will describe.

The surgeon who would remove septic foci by caustics would be an object of ridicule; yet one standard treatment of endometritis is by chloride of zinc pencils passed into the uterine cavity. One noted gynecologist drains the uterus by plugging it up; another will let a patient go around with a stem pessary for months, yet fears to use intra-uterine packing with iodoform gauze. But why multiply instances of the inconsistency of those who condemn the curette and gauze

packing? Not one scientific argument has been brought against the method suggested by me; not one failure has been recorded where the operation has been properly performed. The general argument has been one of fear to undertake such a radical departure from the old methods, and such statements as that the operator would have those accidents which have never happened. I have said I did not know who devised the curette, and the same may be said of the first use of iodoform gauze intra-uterine. But as early as 1884 Vulliet dilated, for purposes of examination, the uterus by the use of iodoform cotton. Our own countryman, Polk, in 1888, and again in 1892, has advocated the use of dilatation with iodoform gauze packing, and the curette when necessary, in the treatment of chronic endometritis, whether simple or complicated by inflammatory lesions about the uterus. My own first paper on the subject, which I discuss now, was read before the New York Obstetrical Society in January of this year, and has been followed by another by Polk in April.<sup>2</sup>

It is sufficiently clear what method of treatment is fol-

It is sufficiently clear what method of treatment is followed in these cases. It but remains for me to give a detailed account of the procedure in the various conditions under which we find septic endometritis occurring.

Great is our indebtedness to Polk for his constant and courageous advocacy of the true method of treatment of chronic endometritis. The adoption of his modification of Vulliet's plan would be still more general had Polk, in supporting it, not fallen into two great errors. He ascribes all septic peritonitis to extension through the tubes; at least he mentions no other path. In this way the readers of his papers are left in a very proper doubt as to the expediency of adopting the treatment for a condition (pyo-salpinx) which is usually entirely cut off from both the inside of the uterus and the pelvic peritoneum.

Again, he attributes all the beneficial results to be derived from the treatment as due solely to "depletion."

We are given an insight into the kind of depletion he means by his further remark that it is along the line of that advocated by Sims and Emmet, *i.e.*, of the pelvic circulation;

<sup>&</sup>lt;sup>1</sup> Trans. Amer. Gynec. Soc., 1888; Trans. Pract. Soc. New York, 1888.

<sup>&</sup>lt;sup>2</sup> N. Y. Obstet. Soc., April, 1892.

they accomplishing by means of the alkaline vaginal tampon what Polk still better effects by the intra-uterine drain. I cannot accept this explanation. The lymphatics, more than the tubes, carry to the peritoneum that which produces peritonitis.

The curetting and gauze packing act here just as they do in any other septic cavity; and if I can convince my readers that I am right in my anatomy and the pathology of these conditions, no man with a *surgical mind* will fail to see that the proposed treatment is rational and proper.

When we have clearly before us the fact that every woman's vagina is loaded with germs, and that they are very often found in the cervical canal even in health, it is difficult to conceive how any purulent uterine discharge can be due to the few non-septic causes of purulent inflammation.

Chronic uterine inflammation is the simplest form of the trouble. It has been so ably handled by others, notably Polk. that I must refer my readers to them. There are cases with slightly purulent uterine discharge without acute symptoms or either old or recent implication of the adnexa or peritoneum. These are none the less septic, but do not necessarily demand curetting, being amenable to simple drainage or the application of astringents.

But when the chronic endometritis is associated with salpingitis or with recurrent attacks of peritonitis there arise three questions: 1. If I perform laparatomy, will the endometritis be thereby cured? 2. Is the complication due to the endometritis? and 3. Shall the endometritis be treated before doing laparatomy or afterwards? To the first I unhesitatingly answer no, and equally as positively yes to the second query. As to the third, that with some is a moot point. There are undoubtedly some slight cases of endometritis associated with cysts of the tube, either purulent or serous, and with no implication of the peritoneum. Manifestly here it will be useless to expect amelioration of the tubal disease by doing a curetting, and the endometritis is so slight that it is not a factor to be considered. Here a primary laparatomy is indicated. But in all cases of tubal disease associated with

<sup>&</sup>lt;sup>1</sup> Trans. Amer. Gyn. Soc., 1888; Trans. Pract. Soc. New York, 1888; N. Y. Journal Gyn. and Obst., April, 1892.

peritonitis, and in all other cases of peritonitis where the uterus is the seat of a purulent inflammation, I strongly advise a curetting some time before a laparatomy is determined upon.' If this is done in cases of recurrent attacks of peritonitis, often a permanent radical cure will be effected without further surgical interference. Furthermore, the source of sepsis having been removed by the curetting, when laparatomy is performed later the operator will find all the peritonitis gone, there remaining but the sequelæ of the peritonitis and tubal disease, and he will have a clear field to work in, free from agglutinated guts, etc. Hence there will be less hemorrhage and less necessity for drainage.

The recent lymph we often meet with in these cases of inflammatory pelvic disease, and which gives us so much trouble, is proof positive that either the tube is discharging (rare) or else that the lymphatics are the carriers of the sepsis from the uterus. To remove the diseased tube in such a case does not, by the mere mechanical tying a string around it, cut off all possible source of sepsis. Many of the fatal cases occurring after the cleanest and most skilfully performed operations can be traced directly to this infection by the lymphaties of the oozing and raw surface left after the removal of the adherent adnexa.

When we come to consider acute septic endometritis with involvement of the adnexa and peritoneum, we approach a subject which is still agitating some people, even to the extent of leading them to a distortion of facts to prove their arguments against my application of well-known surgical truths.

The indications for doing a curetting where the endometritis is chronic and the complications old though repeated, are rendered many times more imperative when the endometrium is the seat of an acute septic process and the peritonitic and tubal involvement is recent and acute. These are the cases we find with fever, vomiting, tympanites, etc. They are acute in every sense of the word. They are most frequently seen after abortions, labor, and occasionally associated with clap.

Here our interference may cut short the disease and thus <sup>1</sup> The Author, N. Y. Journal Gyn. and Obst., February and April, 1892.

save our patient from the serious complications of continued septic absorption. And even though such a fortunate result may not follow our curettage, at least all that remains is a perfectly clean uterus, without the possibility of its being the source of further septic infection and adhesions, etc., which result from a partial absorption of lymph. It is astonishing how large a mass of recent lymph the peritoneum will take up, provided we stop that which causes the peritonitis. Even in post-partum septic infection the result is immediate and startling, and would be inexplicable did we not know that the infection in these cases follows, not the tubes, but the lymph streams, and that the former are not involved until much later in the disease. It has been the usual procedure in these post-partum cases to operate at once by section, or, being denied this, to rely upon irrigation and the family physician. It is just as excusable to do a Cesarean section and leave behind the rotten uterus as to break up fresh adhesions and remove the adnexa and leave behind a septic uterus after abortion or full-term labor.

Continually are women cut open in post-partum septic infection and some such condition as this found: "Recent peritonitis apparent everywhere; several ounces of fluid in the left pelvis: left tube about an inch and a quarter long; the right tube seemed normal." If men insist upon doing laparatomy in such cases they should remove the whole uterus.

Every objection urged against my application of an old procedure rests upon its novelty and—fear. Well, I have nothing to say to such arguments.

I have almost come to the conclusion that when you cannot check puerperal sepsis by irrigation, curetting, and antiseptic dressings, the case is beyond immediate surgical relief. By the latter expression I mean the ether, operation, etc., will destroy what little chance for life remains, and that it is better to let the woman alone. But if I did a section I would most certainly ablate the whole organ. Simple removal of the tubes and ovaries I deem worse than useless.

In septic infection before the fourth month of gestation I would at once curette without considering irrigation. After that time, whether to irrigate alone or curette will depend upon just how early the case is seen.

When the unimpregnated uterus is infected by the sound, nasty operations, or gonorrhea, the indications for treatment are the same as after abortion: immediate, thorough removal of the septic focus and the surgical treatment of the organ. Of course diseased conditions of the adnexa without endometritis do not demand any form of intra-nterine treatment.

For the life of me I fail to see wherein lies the doubt as to the *indications* for treatment in these cases. If objection is made to it on the score of fear lest it do harm, all I have to do is to point to the results obtained by the men who have a right to speak—those who have tried it.

I can dispose of the subject of after-treatment in a few words. The uterus is to be drained just so long as it discharges a purulent fluid, or any fluid in quantity. If it be large it must be reduced by appropriate treatment, as with iodine and alkaline tampons. I use iodine very freely, both because it is an astringent and is antiseptic (germicidal 1:5,000), especially after abortions.

As to the length of time gauze may be left in the uterus, I do not think it makes much difference so long as the vagina is clean and drainage thorough. But in all cases it is a fairly safe rule to follow to change the dressing whenever it gets soaked with discharge. In all cases I pack the uterus tightly with the gauze. It produces uterine contraction, controls hemorrhage, is more absorbent, and tends better to keep the cervical canal open. When the cervix is conical or the canal otherwise small, I do not hesitate to incise it before dilating.

Objection may be made to the operation on general principles, and specifically to each step of it. I have attempted to meet any general theoretical objections. A great many special faults have been found with it. It is considered by one unsafe to use traction on the uterus when a pyo-salpinx exists. There is not as much risk of rupturing it as to drag on it from above in laparatomy, for the normal tendency of the pelvic organs is downward, and traction on the uterus brings them all down.

Dilatation is one step which arouses a good deal of opposition. For instance, Joseph Hoffman, of Philadelphia, considers it a very dangerous procedure, not only in these acute cases, but also in any case. I am sorry Dr. Hoffman has had such ill results from its use as to warrant his so characterizing the procedure. To say the least, it is a funny argument to urge against a surgical operation that some men have had accidents happen and that it is dangerous.

When we consider the curette we run against a multitude of theories and unfortunate experiences. One man wants to use the dull curette, which practically begs the question. Another is afraid he will poke it through the organ or scrape through.

All I have to say to those who are afraid to dilate or curette is that they practically follow the advice of Martineau<sup>2</sup> to "refrain from all manipulations, all active interference, as long as adeno-lymphitis exists"; only they have forgotten the lymph streams in their blind search for diseased tubes.

It has almost resolved into this: that, given an acute intrauterine infection with beginning peritonitis, therefore the patient must be mutilated. In the utter neglect to employ so surgical a procedure as dilatation and drainage by some men, may be found the comparatively large number of laparatomies they perform.

Of course I do not advocate the indiscriminate use of the curette. My papers have been read before the most learned special society in this country, composed of men who are supposed to know what they are doing; and my articles have been published in journals devoted to gynecology. It is an operation—ves, and a serious one. But it saves life, it limits the number of laparatomies and spares women mutilations; and any procedure which will even occasionally do this we should gladly welcome. If a man has accidents follow a curettage, it is his fault. If his patient has a rise of temperature, his operation has been a nasty one. But even the man who knows little of antiseptic methods and who does little gynecology will some time be called upon to do this operation to save life, just as he will have to put up a compound fracture. The operation I present is advocated for use by men specially skilled in gynecic surgery. I trust it will be given a fair, honest chance. Any obstacle, when we can safely do so, should be placed in the way of the laparatomist. I claim that what I

<sup>&</sup>lt;sup>1</sup> Trans. N. Y. State Med. Assoc., 1892.

<sup>&</sup>lt;sup>2</sup> Trans, Internat, Med. Cong., 1884.

propose is *not* bold, hazardous, and unscientific, but that it is based on sound surgical principles and that it is in every sense conservative.

I maintain that to do a laparatomy with the starting point of a septic acute infection untouched is to meet the disease at its height, with glued guts, etc., with patient in wretched general condition—is but to invite failure from the section or furnish a case with complicated convalescence.

If the pus tubes were the cause of the peritonitis and the main source of sepsis, as is the general belief, opening them per vaginam and thorough drainage should effect a cure. But we all know how dismal a failure such treatment is.

Not few are the cases where, after removal of diseased adnexa from one side, those of the other have subsequently become infected from the neglected endometritis.

Operation.—This may be done on the back, the patient being retained in the proper posture by Ott's crutch, or on the side.

The patient should be shaved, and the vagina and genitalia scrubbed with ten-per-cent solution of creolin in mollin and washed with  $\mathrm{HgCl_2}$  solution 1:3,000. All instruments should be sterilized and kept in a three-per-cent carbolic solution. The operator and assistants should be prepared as for a laparatomy. There should be two irrigators, each holding four quarts, one containing Thiersch solution, the other solution  $\mathrm{HgCl_2}\ 1:4,000.^1$ 

The iodoform gauze is prepared as follows: The purified mull is sterilized and soaked in a saturated solution of iodoform crystals in ether, dried, and dipped for a few moments in solution HgCl<sub>2</sub> 1:3,000, wrung out and put in glass jars. It is needless to say that the hands which prepare it should be strictly aseptic, as also must be the utensils employed. The instruments needed are, besides specula, a heavy pair of bullet forceps (double tenaculum), uterine sound, long dressing forceps, three sizes of curette, heavy applicator, the author's dilator, a snitable stiff catheter, or, better still, a Bozeman-Fritsch catheter. I prefer my dilator, which is merely a modification of the Sims instrument, because it has power, is

<sup>&</sup>lt;sup>1</sup> Ziegler says bichloride 1:5,000 is sufficient to destroy all germs and spores, even if the exposure be very short.

easily handled, and with it there is no risk of tearing diseased tissues, the latter objection attaching to all instruments which work with a screw, the residual spring in the metal rendering their use here hazardous. I use borated cotton instead of sponges and swabs. After exposing the cervix, the patient on the back, the anterior lip of the cervix is seized firmly with the double forceps and held by one assistant. The sound determines the direction of the canal; this is forcibly dilated and thoroughly irrigated with HgCl, 1:4,000. The uterus is then curetted, particular attention being directed to the cornua, where, if the tubes be diseased, the membrane is very thick. Irrigate again, and again go over the uterus to determine whether any shreds have been left. Having removed the entire endometrium, the uterus is irrigated once more with bichloride. If the uterus has been deeply septic and much enlarged, the whole four quarts of Thiersch should be allowed to flow into it. The organ will now have contracted somewhat and will need the use of the dilator again. The interior of the organ may now be swabbed with iodine, if indicated, and the gauze packing begun. Before I take up the gauze I always cover the parts over which the irrigating fluid has flowed with bichloride towels, and wash my hands in the usual solution. According to the size of the cervical opening must our strips of gauze be cut; one inch is a good width. If the canal be well dilated it may be poked in with a sound. Or the applicator may be used, care being taken to have the latter accurately curved to the canal. The gauze is packed in one long strip, the end of which is left projecting into the vagina. The vagina is then more or less firmly packed with gauze, a pad put over the vulva, and the patient put to bed. Morphia is not necessary to relieve any pain produced by the operation, and its use in any case of inflammatory disease is to be. deprecated.

## PERINEORRHAPHY.1

WITH ESPECIAL REFERENCE TO MR. TAIT'S FLAP METHOD. A COMPARISON OF OTHER METHODS,

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(With seven illustrations.)

Perineorrhaphy is an operation to restore the integrity of the supposed functions of the perineum and to prevent prolapse of the pubic segment of the pelvic floor. The perineal body is situated between the lower end of the vagina and rectum.

Difference of opinion still prevails as to the utility of the perineum in the economy of the female genitals, but, from considerable dissection and work on the subject, I will claim as the functions of the perineal body the following:

- 1. It sustains the lower ends of the anterior rectal wall and the posterior vaginal wall.
- 2. It supports and directs the discharging end of the vagina forward.
- 3. It supports and directs the discharging end of the rectum backward.
- 4. It not only keeps the discharging ends of the rectum and vagina widely apart, but it gives both a support in a curved direction at their termination, thus affording mechanical advantages for maintaining closure of both apertures and preventing the easy escape of the contents of either canal. The wide divergence of the two canals avoids mingling of the secretions and consequent irritation from decomposition. The backward hook of the rectum and the forward hook of the vagina is an important factor in support, and prevents gaping.

<sup>&</sup>lt;sup>1</sup> Read before the Chicago Gynecological Society, November 20th, 1891.

- 5. It serves as the point of union of four muscles: the levator ani, the sphincter ani, the bulbo-cavernosus, and the transversus perinei.
  - 6. It acts as a support of the pelvic floor.

7. It strengthens a tried point in labor.

8. Laceration of the perineum to any considerable extent destroys the nice balance between anatomical structure and

physiological function in the female genitals.

The object of perineorrhaphy is: 1. To restore partial ruptures. 2. To restore rectal function from complete ruptures. 3. To prevent prolapse of the pubic segment of the pelvic

The methods of performing perineorrhaphy are: 1. Denudation with fixed coaptation. 2. The flap method.

The etiological factors of lacerations are: 1. Labor. 2. Coitus. 3 Trauma

Partial laceration of the perineum may be accompanied by: 1. Vulvar patency. 2. Increased vaginal secretions. 3. Irritability of parts from pathological condition of nerve structure. 4. Neuralgic or neurosal conditions induced by long-continued local lesions. 5. Descent of anterior rectal wall, posterior vaginal wall, and the uterus.

Complete laceration of the perineum may be accompanied by: 1. Vulvar and anal patency. 2. Increased vaginal and rectal secretions. 3. Incontinence of bowel contents and occasionally of bladder contents. 4. Irritability and disease of the surrounding parts from the abnormal secretions. 5. Neuralgic and neurosal conditions from changes in nerve structures. 6. Melancholia. 7. Relaxation of the displaceable segment of the pelvic floor and consequent prolapse or hernia of the pubic segment.

In the first part of the paper I will discuss partial and complete perineal lacerations, which are to be remedied by denudation and fixed coaptation, or by the flap method.

In the second part of the paper I will discuss the addition of prolapse to perineal lacerations, which is to be remedied by the extension of the flap method, or by denudation and fixed coaptation.

Prolapse is prevented by perineorrhaphy, elytrorrhaphy, and episiorrhaphy (or some abdominal operation).

History records that Ambrose Paré first recommended perineorrhaphy and that Guillemeau first performed a successful operation. The operation was improved by Noel. Sancerotte, Mursina, Mensel, Osiander, and Zary. The great Dieffenbach, of Berlin, really laid the foundation of the modern operation by his "triangular union," as he first introduced stitches from vagina, rectum, and perineum. Langenbeck improved the operation. But to Simon, of Heidelberg, must be credited the honor of first systematically and successfully giving to the profession the operation in detail. From 1860, the day of Simon and Sims, the names of those who have cultivated perineorrhaphy are legion. The introduction of the division of the sphincter ani came from Horner, Baker Brown, and Schuh. Though this was anticipated by Dieffenbach by his "side cuts" to relieve tension, it must be considered a progressive step.

I will first consider the flap method in perineorrhaphy. It is superior because it is the most easy and simple operation, and, second, it is the operation which restores the parts to the

most perfectly natural condition.

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Dieffenbach foreshadowed the flap method. Voss and Stein, it appears, did it originally. Colles, of Dublin, in 1861, while performing an operation for vesico-vaginal fistula, did not follow the old method of paring the edges, but split them, and thus was recorded the historic flap. In 1872 Dr. John Duncan performed an operation to close an artificial anus. He did not pare the edges, but split them and invaginated the mucous membrane into the bowel lumen, while the muscular and serous coats of the bowel were drawn outward; thus a wide coaptating surface was obtained with the least disturbance of function or structure. History notes that Simpson carried Duncan's "splitting" of tissue layers to the perineum. Simpson performed a kind of four-flap perineal operation. It appears that the Edinburgh surgeons for many years had used the flap in surgical operations. At Edinburgh Mr. Lawson Tait was trained, and he carried away with him the ideas which enabled him to give to the profession the best known operation for the restoration of the lacerated perineum. Mr. Tait does the perineal operation, as he does all other operations, in the simplest manner. He uses an elbowed, sharppointed scissors, a handled needle with an eye in its pointed end, and three to five silkworm-gut sutures. In general, the old perineal cicatrix is resplit and the exposed tissue is recoaptated and fixed in position by sutures. In short, it actually restores the perineum. Sänger, of Leipzig, is the main champion of the flap method in Germany, and has done excellent work. Sänger does the operation with a scalpel instead of scissors.

To do Tait's flap operation the point of the scissors is entered at the middle of the recto vaginal septum for about one-

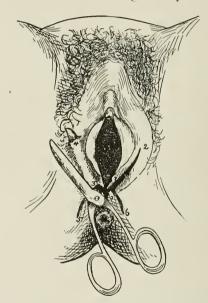


Fig. 1.—The dark line running from the vaginal orifice toward the rectum represents the old perineal laceration. The dark line running from 7 to 1 and then up on the labium to 2 shows the exposed tissue made by the scissors clip on the left side. From 1 to 6 shows another scissors clip and is known as the "back cut." From 3 to 5 shows another "back cut." From 3 to 4 represents the blade of the scissors beneath the labial tissue, ready to be clipped.

half inch (say at 7 in Fig. 1); the scissors point is then carried beneath the tissue (as deep as desired) to the side of the vagina, and up on the labium as high as desired (say at 2 in Fig. 1). A clip is then made by the scissors, exposing the tissue (from 7 to 2, Fig. 1); the point of the scissors is again entered at 7, and the point is carried under the tissue to 3 and up the labia to 4, when it emerges. A clip is then made with the

scissors, exposing the tissue from 7 to 3 and to 4. The "back cuts" are then made by entering the point of the scissors at 3 and making it emerge at 5, when the scissors are clipped, exposing the tissue from 3 to 5. The point of the scissors is again entered at 1 and carried to 6 and the scissors clipped, exposing the tissue from 1 to 6. We now have a U-shaped incision around the vaginal orifice and a \(\cap-\)shaped incision around the anal orifice. Now the anterior vaginal flap is

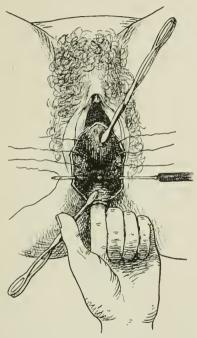


Fig. 2.—The vaginal flap is seized at 7 by forceps and drawn up toward the vagina, and the rectal flap seized at 7 and drawn toward the rectum. The raw surface is now drawn into an oval shape by tension on the two forceps. The needle shows itself entirely inside of skin and mucous membrane; it penetrates neither. The needle is best managed by introducing a finger into the rectum so as to avoid penetrating the gut wall

seized at 7 by a forceps and drawn up toward the vaginal orifice (see Fig. 2). The posterior flap is also seized by a forceps at 7 and drawn back toward the rectum (see Fig. 2). The points 7 and 7 will represent the apices of a long, narrow oval, as seen in Fig. 2. The second step is the introduction of three to six silkworm-gut sutures. The silkworm gut should be

put into hot water a few minutes before using, so as to make it flexible. A handled needle with an eye in the point is used. Its point is entered just inside the margin of the wound (not in the skin or mucous membrane), and is carried under the exposed tissue to the bottom of the wound, and then, still under the tissues, up to the opposite margin of the wound, where it emerges. A thread of silkworm gut is put through its eye and the needle is withdrawn. Three to five of such sutures are employed. The sutures may be left in for six to eight weeks. The operation is easily done in ten minutes. I have frequently seen Mr. Tait do it in five minutes. On tying



Fig. 3.—The results after tying the four sutures. Notice the wound gapes a little from 7 to 7 and that the vaginal flap peeps over the upper 7. The needle may be introduced from the margin of the wound to the bottom and then emerged, threaded, and drawn out on one side. Then the other side may be done likewise. I note this, as in a thick, fat perineum it may be impossible to pass the needle from one margin of the wound to the other without threading it twice. The sutures are all introduced before any are tied. The newly built perineum from 7 to 7 will look amazingly large, but it will soon sink to a natural appearance.

the sutures one will note, to his delightful surprise, that the original perineum is rebuilt. I would urge that the clips with the scissors be made deep, so as to expose wide areas of tissue. The labial incisions should be carried high up on their wall; I sometimes carry them as high as the urethra. I have so far not seen tension disturb the operation. A little practice is required so that a man will not make a pocket above the peri-

neum in the vagina. Be sure that the sutures grasp plenty of tissue, so that firm and uniform coaptation will exist after tying. The operation is alike applicable to partial and complete perineal lacerations. During my six months' course with Mr. Tait he would frequently remark that the worse the laceration the better the operation showed itself. Mr. Tait has performed many hundred perineal operations by the flap method. He has twenty-six recorded cases of labor after the operation, and he told me that he had never known the perineum to be retorn.

The after-treatment of the operation is simply rest. I prefer to keep the bowels loose, and just before movement give an enema. The chances of union by first intention are superior to the denudation operation, as the rectal and vaginal flaps divert secretions from the wound.

The advantages of the flap operation are: 1. The ease and simplicity of its performance. 2. It wastes no tissue; if it fails the patient is no worse off than before the operation. 3. It is the only operation that restores in a natural method the perineal body. 4. It withstands subsequent labors. 5. The sutures are not passed through skin or mucous membrane, and therefore are not so liable to suppurate. 6. Its certainty of healing. 7. The flap operation secures in the easiest and most convenient manner the widest possible surface for coaptation and healing. S. The pain after the operation, in my experience, is less than after the denudation operation. 9. Tait's flap operation can be practised successfully where the repeated denudation operation cannot be performed because of loss of tissue and excess of tension. 10. The short time required to do Tait's flap operation minimizes shock. 11. The resulting cicatrix is in its natural location and linear, and will thus cause less peripheral nervous disturbance. 12. The stitches leave no cicatrices and therefore will cause no irritation. They act like Dr. Bayard Holmes' buried sutures.

I will say that I have seen men doing what was called Tait's flap operation with a small bistoury, but in my opinion it was so much inferior to Tait's operation performed with scissors that it appeared like a totally different operation.

When one ties the sutures the newly formed perineum will look enormously large, but it will soon shrink to a natural

appearance. By a little experience one can do Tait's operation so that, on healing, the linear cicatrix will so resemble the old raphé that one can scarcely tell that an operation has been done. I have done the operation and in some eight weeks after the healing the result was so perfect that some practitioners almost doubted that any operation had been done.

In performing the operation one must not penetrate the rectum or vagina with either the point of the scissors or the point of the needle. In either case a vaginal or rectal fistula might result; or, if fistula did not occur, healing of the wound might be retarded or interfered with. One should, of course, avoid entering the point of the seissors into the vaginal bulb and so creating profuse hemorrhage. The operator should be careful not to sever the ducts of the vulvo-vaginal glands. Again, there is some danger that the flap may not heal high up in the recto-vaginal septum. I saw such a case in a colleague's practice. I make the incisions from one-half to one inch deep. One of the difficulties to understand in Tait's flap operation is how such incisions can be made to produce an oval raw surface. I think the illustrations which accompany this article will show it clearly. The incisions made are, say, one-half to three-fourths of an inch deep between the rectal and vaginal wall. The raw surface on the rectal flap, then, is one-half inch, and the raw surface on the vaginal flap is onehalf inch, making one inch of raw surface. I nearly always have one and one-half inches, so that when the middle of the vaginal flap is drawn up toward the vagina, and the middle of the rectal flap is drawn toward the rectum (as seen in Fig. 2), there will be an irregular oval raw surface, whose closure will represent the new perineum. The cicatrix in the new perineum will be linear (as shown in Fig. 3). If the index finger is now introduced into the rectum, and the thumb, or other index finger, is introduced into the vagina, the thick, newly formed perineum is plainly felt. Its healing is quite certain, as the rectal and vaginal flaps act as sheds to direct all secretions away from the wound. The advantage of avoiding the skin or mucous membrane in passing the sutures is clearly shown by the subsequent absence of stitch-hole marks. suffering after the operation, so far as I have noted, is far less than after the denudation.

Tait's flap operation can be reversed and performed for prolapse of the bladder, but, as I have had no experience with the performance of the reversed flap, I will leave that for experienced surgeons to report on. In the case of the reversed flap the newly acquired strong tissue would necessarily be formed in the vestibule. It seems to me that there is a future for Tait's reversed-flap operation, for the principle of the operation is just the same whether the seissors makes the incision clips between the rectum and vagina or between the urethra and clitoris. The amount of episiorrhaphy in either perineal flap or vestibule flap will depend on the operator's individual judgment. Tait's flap extension will be discussed under operations for prolapse. It is simply the addition of episiorrhaphy, in the form of the flap method, to the perineal flap.

It may be called perineo-episiorrhaphy.

The two types of perineorrhaphy by denudation differ in the method of suturing. The old method was to pass the sutures through skin across the denuded surface under the exposed tissue. A later method is to use what is called the "étage" stitch. It is the buried catgut suture of Werth, of Kiel. In English it would be called the buried spiral catgut. It is an excellent method of doing perineorrhaphy. I found by experience that when the laceration extends up into the rectum the best way is to use no rectal sutures at all, but use the spiral catgut right down to the mucous membrane of the rectum. Also, use no vaginal sutures, simply carrying the catgut spiral suture up to the vaginal mucous membrane and no further. The same may be said about using no perineal sutures unless tension is dangerous. Hence I can close a laceration of the perineum into the rectum by simply using a continuous catgut suture which never goes through skin or mucous membrane. So far as the rectum is concerned, I found it much better not to introduce sutures into its mucous membrane. So that Dieffenbach's vaginal, perineal, and rectal sutures are all left out, while the denuded surface is held in fixed coaptation by a wholly buried spiral catgut suture. But even this, I think, is inferior to the flap method.

The Consideration of Prolapse and its Operations.—Prolapse may be considered as a downward displacement of the pubic segment of the pelvic floor; of course the sacral seg-

ment of the pelvic floor shares in it by a yielding of some of its parts. There are so many varied opinions as to the ctiology of prolapse that one can safely say the subject is not fully settled. In my opinion much credit is due to Drs. Hart and Barbour for their excellent investigations on the structural anatomy of the pelvic floor. After considerable careful dissection I feel quite sure that many previous views must be changed, but it is hopeful when the closest and most continued students of the pelvic floor come nearly to the same conclusion. The subject of prolapse, I think, should be studied out anatomically and clinically, as a watchmaker studies out every structure and action of a watch. The field of investigation is still large. As time goes on the uterus itself will get less attention and the pelvic floor more. The subject of relaxation and submucous laceration will be more studied. Relaxation of the whole pelvic floor, due to repeated labors and anatomical lesions, will be found to be a large factor in prolapse. Insufficiency of perineal support should not be lost sight of, and the sphincter apparatus of the pelvic floor will be more studied. From dissection one would at once proclaim that the levator ani and the triangular ligament were the main supports in the pelvic floor, but the relations of other supports must be considered. Dissection is the only intelligible way to understand the subject. For example, dissection of quite a number of bodies has thoroughly cleared up, in my mind, the fight between the views of anatomists and gynecologists as to the position of the uterus. As a gynecologist I have examined several thousand women, and I am sure that the uterus leans forward in normal condition. Continued examination on the back and while standing will convince any mind that slight anteversion is the normal position of the uterus. Now, the anatomist has often insisted that normally the position of the uterus is in the hollow of the sacrum. I have repeatedly found in the dead woman that the uterus is in the hollow of the sacrum, precisely as the anatomist has described. Both gynecologist and anatomist are correct in their own stations. In the living woman the normal position of the uterus is that of anteversion. In the dead woman on her back the uterus generally lies in the hollow of the sacrum. In just such a manner must men be

convinced of differences of opinion relative to prolapse, by careful personal anatomical and clinical investigation. A comparison of different causes will soon let in the light of knowledge. Space forbids further discussion of the etiology, and I present a table to represent further views:

#### ETIOLOGY OF PROLAPSE.

- 1. Insufficiency of sphincter apparatus.
  - a. Levator ani.
  - b. Triangular ligament.
  - c. Pelvic fascia.
  - Perineum (composed of levator ani, bulbo-cavernosus, transversus perinei, and sphincter ani).
  - e. Vaginal walls.
  - d. Urethro-vaginal septum.
  - f. Recto-vaginal septum.
  - g. Muscular and elastic tissue on lower third of vagina.
- 2. Insufficiency of peritoneal supports.
  - a. Utero-sacral ligaments.
  - b. Round ligaments.
  - c. Broad ligaments.
  - d. Vesico-uterine ligaments.
  - e. Peritoneum.
  - f. Elongated cervix.
- 3. Intra-abdominal pressure.
- 4. Relaxation of anterior and posterior segment of pelvic floor.
  - a. Repeated labor.
  - b. Submucous lacerations.
  - c. Subinvolution of pelvic floor and organs.
- 5. Weight of uterus.

#### OPERATIONS FOR PROLAPSE.

- 1. Tait's flap operation (and extension).
- 2. Perineo-episiorrhaphy.
- 3. Elytro-perineorrhaphy.
- 4. Elytrorrhaphy.
- 5. Amputation of cervix.
- 6. Shortening of round ligaments (Alexander-Adams).
- 7. Shortening the broad ligaments.
- Fixation of the uterus to the abdominal wall (hysterorrhaphy).
- 9. Schücking's operation.
- 10. Herrick's operation.

The operations for prolapse have been as varied as the views of its cause. Operators have attacked the uterus, vagina, vulva, and uterine ligaments to accomplish their purpose. The pioneer idea in prolapse was to close up the vulva so that the uterus could not escape. Thus we have the early episiorrhaphy of Fricke and Küchler. But men soon

saw that simply closing up the vulva was like putting a board over the mouth of Mount Vesuvius and sitting on it. The forces at work were not at the vulva nor at the mouth of the crater, but deep in the interior. Then came the operations on the perineum with all their variety, from Guillemeau's successful case, through Dieffenbach, Langenbeck, Simon, and Sims, to the modern flap operation (see Figs. 4, 5, 6, and 7). Finally to episiorrhaphy and perineorrhaphy were added operations on the wall of the vagina (colporrhaphy or elytrorrhaphy).

In regard to elytrorrhaphy I would call attention to an operation devised and introduced by Dr. T. J. Watkins, of

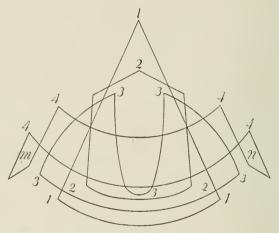


Fig. 4.—Representing, by superimposed diagrams, the various shapes of the denudations in posterior elytrorrhaphy: 1, 1, 1, Hegar's: 2, 2, 2, Simon's; 3, 3, 3, 3, 3, Bischoff's: 4, 4, 4, 4, m, n, Winckel's. Observe that Bischoff saves the column.

Chicago. He does an operation which may be called lateral elytrorrhaphy. It saves both the anterior and posterior columns of the vagina. Dr. Watkins performed twenty of these lateral elytrorrhaphy operations, and Dr. John A. Lyons, his associate, performed three. They report good results.'

Elytrorrhaphy has been quite a successful addition to gynecology, but it is a denudation operation and hence destroys valuable tissue. I have observed that the European operators attempt to save the anterior and posterior columns of the

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vagina. Men see in the column a valuable piece of supporting tissue, and some of them, like Martin, try to save it. Emmet has worked along the same line. Dr. Emmet's operation is one of the most useful of its kind, and, if mastered and done thoroughly, proves a success. In it he has combined the best principles of the denudation operations. It saves the columna and denudes the areas of least resistance. Its idea of supporting the pelvic floor is correct. If the flap-splitting method could be made use of in this operation it would be a marked step in advance. I think now the vulvar and vaginal operation of denudation should be superseded by the flap-extension method. The flap extension might be

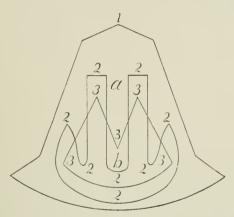


Fig. 5.—Representing, by superimposed diagrams, the various shapes of the denuded surface in posterior elytrorrhaphy: 1, 1, Fritsch's: 2, 2, 2, 2, 2, 2, 2, a, b, Martin's—note Martin saves the column,  $a, b, \beta, 3, 3, 3, 3$ , Emmet's—The progress toward saving the column and utilizing the vaginal salei for denudation is apparent in the best operations. In Tatt's flap method all is saved.

called perineo-episiorrhaphy. It is done with no loss of tissue and can be carried right up to the urethra. The amount of flap and consequent barrier of tissue built up at the vulva will depend on the depth of the scissors clip and the amount of exposed tissue, and also much on the manner of suturing the surfaces to be coaptated. The flap-extension method will form one of the best supports for prolapse.

One can observe the most practical operators and best observers trying to save the column and trying to perform denudations in the vaginal sulci. The superiority of Tait's flap

operation is that it saves all tissue and builds a natural perineum in a natural location, and thus subserves natural forces according to Nature's original law, and anatomical structures are not much violated by cicatrices and cicatricial contraction. .

Shortening the round ligaments in prolapse I mention only to generally condemn. At present I think the Alexander-Adams operation is going into disfavor. Shortly after the operation came out I did some anatomical work on it, and I thought then it would go into oblivion. Lately I have again done more careful work on the subject, and I think the operation will not gain in favor. The fact of the whole matter is, the round ligament is not large enough to be a main support for the uterus, and mere position of the uterus is insignificant. Again, the operation may cause subsequent hernia. The ligaments, in many cases which I investigated in the



Fig. 6.—Representing Stande's operation for prolapse (elytrorrhaphy posterior: 1, 2, 3, 4, and 5, 6, 7, 8 represent the denuded vaginal sulci; a, b shows the intact column, which is utilized in coaptation and fixation of the denuded surfaces. The principle of saving and utilizing the column is the same as in Martin's and Emmet's operations.

dissecting room, could not be found except by going close to the uterus, and no man can tell which those cases will be. The peritoneum must also be opened to do the operation, which is an absolute source of danger. If the uterus be adherent, drawing on the round ligaments will not elevate it; the round ligaments will surely tear. Even if a round ligament was found which would support the uterus, uterine weight would soon stretch it.

The objections against the Alexander-Adams operation are:

1. So far reports are not satisfactory. 2. In quite a number of bodies the round ligaments cannot be found. In many cases which I investigated no muscular ligaments could be discovered until one got inside the internal abdominal ring.

3. No operator can tell in which cases the difficulty will

occur. 4. The danger of opening the peritoneum. 5. The round ligaments are insufficient for a main uterine support. 6. Hernia may follow the operation. 7. In cases of uterine adhesions the ligaments will not raise and support the uterus. 8. To do the operation merely for retroversion or retroflexion I think is unjustifiable, as mere position of the fundus is insignificant. 9. Results will generally not be permanent. The round ligaments will gradually yield to uterine weight, especially if there be an enlarged uterus, as is often the case in prolapse. 10. Some of the above objections may be modified if the shortening of the round ligaments is done as Dr. Henry Parker Newman, of Chicago, advocates. Dr. Newman advocates that the operation should always be an accessory operation, and not primary. He holds that some

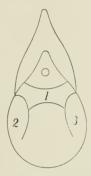


Fig. 7.—Representing Emmet's operation (elytrorrhaphy posterior) for prolapse: 1 and 2 show the lines of union of denuded surfaces in the vaginal sulci, on each side of the vaginal column (3), which still remains.

vaginal operation or mechanical support should precede and accompany an Alexander-Adams operation. This view would make the operation simply accessory or secondary.

Shortening the broad ligaments or stitching them to the abdominal wall, and suturing the uterus to the abdominal wall, are both on trial. Definite reports in sufficient numbers to enable us to form a correct judgment are yet wanting in both these operations.

Schücking's operation for prolapse is not yet established, and it seems the bladder would be in great danger of being wounded during the operation.

Herrick's operation of attaching the cervix to the posterior

vaginal wall has made little definite progress. We have not yet learned how to utilize the sacro-uterine ligaments in prolapse. Hence, for general utility where there is lacerated perineum and prolapse, I think Tait's flap operation and his flap-extension operation stand in the front flank of usefulness.

# NOTE ON THE MANUAL RECTIFICATION OF OCCIPITO-POSTERIOR POSITIONS.<sup>1</sup>

BY

EGBERT H. GRANDIN, M.D., New York.

This paper, in its aim, is suggestive and not dogmatic. When we recall the varied methods which have been advocated, and which are daily being resuscitated, as being applicable to the management of occipito-posterior positions, it is at once apparent that dogmatism would be out of place. Suggestion, however, is allowable, particularly when, as the result of much thought and some experience, one method seems peculiarly applicable to many instances of what is thoroughly entitled to be termed an "obstetrical bugbear." My personal views in regard to the early management of these positions have of late suffered considerable modification. Formerly it was my custom to await descent of the occiput to the pelvic floor, when, in the large proportion of instances, anterior rotation would occur spontaneously; or, this failing, I resorted perforce to instrumental extraction, with results which, whilst never fatal to the mother and rarely to the child, were not at all satisfactory when viewed from the standpoint of what I would term preservative obstetrics. The result of this experience has been the query: Given the diagnosis of occipito-posterior position at the brim, is it not advisable often to convert it at once (whilst the conditions are favorable) into an anterior position?

<sup>1</sup> Read before the Section on Obstetrics and Gynecology, New York Academy of Medicine, February 25th, 1892.

I do not propose to burden you with citations from text books rehearsing the opinions held by one or another authority in reference to the management of these cases. With these you are all familiar, and the consensus of opinion is that, since spontaneous rotation usually occurs at the level of the pelvic floor, it is justifiable to await the descent of the head, and that if rotation then fails the forceps is indicated for delivery, with or without forced rotation. The teaching, however, is beginning to prevail that obstetrics, as a science, carries with it something more than the ultimate expulsion of the fetus by Nature or its extraction by art. The thoroughly trained obstetrician of to-day realizes that his chief responsibility lies in so conducting labor, in so watching its progress, that interference be not forced upon him, but deliberately elected. We know it to be a fact that a posterior position of the occiput carries with it, as a rule, slow engagement, protracted descent, possible non-rotation or-worse still-complete posterior rotation. We know, further, that very frequently interference of one or another nature will be called for in the interest of woman, fetus, or of both. We know, further, that instrumentation after a protracted first stage and in the presence of a tedious second stage, in particular where the fetal head, failing to rotate, has become impacted in the pelvis, carries with it, from the side of the mother, at least considerable injury to the component parts of the pelvic floor, and that from the side of the fetus, already weakened, it often fails in preventing still-birth. With this knowledge, no wonder that many obstetricians are pleading for interference at the brim in the instances under consideration—that is to say, are favoring forward rotation of the occiput when the conditions, from every standpoint, are most favorable, this rotation being effected by the hand, however, not by the forceps.

Why "the hand"! An occipito-posterior position is, as a rule, associated with slow engagement. This factor at once attracts the attention of the obstetrician. Realizing that slow engagement carries with it the risk of maternal exhaustion—a broad term for uterine inertia—it becomes his duty to find out the cause. Sometimes—not as frequently as the books say—abdominal palpation and auscultation associated with digital examination will teach that the head does not engage because

of faulty position and lack of flexion. Again, however, not-withstanding these methods of exploration, the obstetrician is in doubt, the caput succedaneum preventing the determination of suture or of fontanel. Now he may wait on Nature in face of the consequences should she prove tardy, or he may resort to the one certain means of determining the exact position of the fetal head—this one means being exploration of the pelvic brim by the entire hand. The latter should be his choice. The hand being at the brim, the malposition is recognized, and, unless the accoucheur has waited over-long and the uterus is tetanized, it is not a very difficult matter to grasp the head or the neck, to push the head up if slightly engaged, to rotate the fetus, and then, according to the necessities of the case, leave it to Nature or apply the forceps. short, there has been deliberate election of maneuvres at the brim which, if demanded in the cavity or even sometimes at the outlet, are difficult, when feasible, and carry with them risks to which the woman is not subjected at the brim, to say nothing of the fact that she has been spared a protracted second stage with its possible sequelæ.

The course of action herein advocated is not novel, nor is it as radical as at first sight it may appear. The management of occipito-posterior positions has for long been a matter of strife amongst obstetricians. A review of the literature amply testifies to this fact. The lever, the forceps applied inversely, podalic version, the conversion into a face presentation—such means from time to time have been commended. When the occiput, in faulty position, has become impacted, certain of these measures are forced upon us, with consequent damage to the woman and with as yet not sufficiently recognized injury to the fetal brain. Resort to manual rectification at the brim -where not alone the occiput but the fetal body may be rotated—aims at prophylaxis. For the purpose of rotation nothing can take the place of the aseptic hand, aside from the fact that at one and the same time the hand may detect an additional anomaly hitherto unsuspected, such as pelvic deformity, which, aside from being a further cause of slow or impossible engagement, may alter the field of election at the very best time (from the standpoint of both the woman and the fetus)—that is to say, when the conditions are still favor-

able for version or an alternate procedure. To dwell a trifle on a most untoward phase of this position, when the occiput rotates backward into the hollow of the sacrum we are face to face with what, there is uniform agreement, constitutes one of the most difficult eases in obstetrics. The management of these instances is thus outlined in one of the most recent systems of obstetrics: "We need not expect the labor to terminate, spontaneously, safely to mother and child. A pair of short, straight forceps should be applied immediately, and a firm but prudent attempt made to force (the time for coaxing has passed) a rotation of the occiput to the pubis. Should this attempt at *forced* rotation fail—and probably it will fail—then the delivery may be secured possibly by traction with the forceps, though the occiput remain in the sacrum. The forceps here must be used with the greatest care and prudence, and even when most skilfully employed may be insufficient to accomplish delivery; or, if delivery be secured by it, the pressure necessary is often so great that the child is still-born, or its cerebral centres so damaged that it speedily perishes, or, what is worse, survives as a paralytic idiat or ctill more attained to the contract of the contract idiot, or, still worse, attains maturity with a mental and physical organization more or less imperfect, the result directly of the difficulties attending its birth. Should a *prudent* application of the forceps fail . . . the next procedure is embryotomy."

This picture is drawn by Penrose. A number of instances of the kind have passed under my observation. In face of these possibilities should a step which aims at their avoidance be rejected as radical? Radical it is, I grant, when viewed from the standpoint of "let-alone obstetrics." When we remember, however, the goal toward which obstetrics is tending—a goal which, when attained, will imply recognition of the necessity of absolute election, at a favorable time, of each and every obstetric procedure—then the view is not radical, but simply conservative and preservative. The clean, educated obstetric hand is not capable of as much damage as the alternative to its use. Such a hand at the pelvic brim is a source of positive safety to both the woman and the fetus, compared with waiting till exhaustion calls for, we will say, the forceps within the pelvic brim, associated with

attempts at rotation of a fetus held in the vise of a tetanized uterus.

The limit of time at my disposal prevents my doing more than thus generally outlining the reasons which urge me to commend manual rectification at the brim. I would not be understood as claiming that this procedure is called for in every instance of occipito-posterior position. On the contrary, I recognize as clearly as any one that a certain proportion of these cases demand no interference at all beyond, possibly, flexion of the head. These, however, are the instances which give rise to no concern during the first stage of labor. A tedious first stage characterized by short, nagging pains is a fairly uniform accompaniment of the instances which should cause anxiety. We have here the signal that the uterus is becoming exhausted in the attempt, which may prove ineffectual, of causing the fetal head to flex and engage. My conviction is that manual examination at this time will often lead to the adoption of a procedure which will alter the prognosis of, and lessen the difficulties attendant upon, the persistent oblique and sacro-rotated occipital position.

#### WHO SHALL DO ABDOMINAL SURGERY?

BY

MARIE B. WERNER, M.D., Philadelphia.

The above question demands careful consideration. Pelvic surgery, since it has attained a distinctive place in gynecology, is frequently attacked and its position as a curative means of removing disease questioned.

The general practitioner whose time is occupied with family practice is no doubt often puzzled in deciding for the best of his patient. He consults his text books on gynecology, finds them full of old theories and new ideas, but unless there has been an opportunity for ocular demonstration of what is meant by a pyo-salpinx, pelvic peritonitis, etc., he will in all proba-

bility be misled; for while the plates and often the explanations seem clear, he cannot, as a rule, differentiate by the sense of touch the fine lines of distinction set down in the books. How much more satisfactory if he knew that a mass found in either one or the other lateral pelvic spaces, which after free evacuation of the bowels remains painful, is a sure indication that there is some mischief with the appendages; that repeated attacks of frequent pulse and rise of temperature should direct the attention to the presence of pelvie peritonitis and perhaps a new accumulation of pus. With such facts in mind, the treatment will present itself most emphatically; for he would not treat a mastitis with counterirritants, but endeavor by rest and favorable surroundings to allay inflammation, always ready to remove the pus when once formed. Why should the patient with diseased appendages have her uterus curetted or cauterized once, twice, or three times weekly, or packed and drained, when common sense will show at once that her condition can be aggravated by such measures? Nature will, if given half a chance, make the line of demarcation for the pelvie surgeon as surely as she will in gangrene for the general surgeon. Yet not long ago a post-graduate student at one of our most eminent colleges was taught that where pelvic surgery was not advisable euretting was indicated, on the ground that it was beneficial for its derivative effects, that it should be done fearlessly, that perforation of the uterus was not always productive of untoward results-thus showing that old theories and teachings still exist in spite of bitter experiences, and a dangerous license is given to the young student. In scanning literature the word "conservative" is frequently used in a sense that becomes puzzling to many. The word, according to Webster, means "one who, or that which preserves from ruin." Bearing this in mind when eases of pyo-salpinx, ovarian abscess, ectopic gestation, or appendicitis present themselves, the experienced pelvie surgeon at once directs his conservative mind to the restoration of health in the safest and surest manner, which usually is to remove that which Nature has found too much to deal with unaided, and which must be removed in order to insure preservation of the remaining organs, health, and often life.

It is one thing to know what is needed, and often quite another thing to know how to do it well. Every surgeon will remember the time when experience was not his constant companion, when present knowledge might have produced better lasting results and no doubt saved some patients. True, those were probably days when pelvic surgery had not attained its present standard, when gynecology still struggled under the yoke of pelvic cellulitis, parametritis, etc., and the average patient was instructed to come to the office every third or fifth day during six months of every year, with little or no lasting benefit.

When the works of Lawson Tait, Thomas Keith, and G. G. Bantock proved that in surgery there were ways and means of promoting greater cures, the cry was at once raised that "the spirit of restless surgery was let loose." This rebuke could not be applied in justice to those who have become our teachers, but unfortunately can still be used among those who seem to regard that opening the abdomen requires but little more skill than lancing a tooth; who begin boldly and end in unfinished operations; who, when adhesions, painful stump, etc., make the patient's life miserable, are willing to denounce surgery at large rather than admit that their own lack of knowledge has been at fault.

Every specialist studies long and carefully the minutest details pertaining to the branch. An oculist would not risk his patient's sight or his own reputation in performing a cataract operation, unless careful study with frequent practical observations had preceded it. No neurologist would attempt to operate for brain tumor, unless careful study and thought had been devoted to the subject. And it is more than doubtful if a general practitioner would attempt such operations; he very willingly hands them over to the specialist. Yet why his courage should be equal at once to perform any pelvic surgery, and why that should require less knowledge and delicacy of touch, remains a mystery to the experienced surgeon, who has often to deal with the most difficult complications, when omental and intestinal adhesions are found in abundance, the result of repeated attacks of localized peritonitis; where ovaries and tubes have lost all normal relations and appearances, and hence sometimes intimidate or even escape the

notice of the young operator. Does it need much more to show the necessity of just as careful preparation for abdominal work as for other specialties? When the mortality rate stands at three or at the most five per cent among our best operators, is it just to clog the wheels of progress by inexperienced or incomplete work?

The rebukes which are uttered against pelvic surgery should be directed mainly against those who, in the first place, are not sure of their diagnosis before, during, or after an operation; who operate with pain or hysteria as their only guide, or, when expecting to remove an ovarian cystoma, finding a myoma or a fibro-cystic uterus, close the incision and leave it for some one else to remove. These may seem sweeping statements; yet when we consider that a careful bimanual examination, after the bowels have been freely evacuated, will enable the skilled hand to determine the size, position, and mobility of the uterus, the condition of the lateral pelvic spaces, whether filled with masses or free, supplemented by a careful study of the history given by the patient, will enable the experienced pelvic surgeon to be as sure of the best course for treatment as the general surgeon who amputates for an osteo-sarcoma.

When operation is decided upon, the preparations are made for any possible emergency; this, together with the knowledge of how to deal with serious complications, will never cause hesitation or loss of valuable time in discussing best or various There is but one way in all things, that is the right one; and the road is straight and sufficiently tried at the hands of those who have adhered to it to insure the success which is brought by constancy of purpose. There would then be no cause for asking "how to drain a belly with the tube standing straight up," or the statement "that it requires months of operative work to know how to be clean in an abdominal section." This latter reminds me of the boy who asked permission to knead the dough to get his hands clean. Cleanliness is a fundamental principle in all good work, even outside the domain of surgery; hence it is almost impossible to understand how months of operative work should teach cleanliness in abdominal section. It seems sad that the patient should serve as the victim to teach the young operator, who at the same time is doing himself, patient, and surgery a gross injustice.

In The American Journal of Obstetrics, January, 1892, A. Doléris, under the title of "Too many Needless Mutilations, not enough Conservative Gynecology," makes the pregnant remark: "This is an age in which unscrupulous and unreasoning operative boldness, more or less helped out by antisepsis, often takes the place of true surgical knowledge." He, unwittingly perhaps, "strikes the nail on the head," and in those few words explains why surgical interference has so often failed in the hands of those not specially prepared.

The importance of skilfully completed operations is daily shown in our journals, and in order to fortify the position taken here it will perhaps be not amiss to place good and bad side by side. In one of the discussions at the recent annual meeting of the Southern Gynecological Society, Dr. George R. Dean relates two cases of prolonged unfinished operations. Duplicates of such are unfortunately only too frequent. For instance, how much improvement can we expect in a case in which the original intention was to do a hysterectomy; after opening the abdomen this idea was abandoned for oophorectomy; adhesions proving too numerous, the operator finally succeeds in removing one ovary, thereby not only leaving the patient no better, but in all probability much worse than before—for it is but natural to conclude that where there is so little preparation for emergencies the refinements in surgical technique also fail to receive proper attention. There is probably no clear idea when irrigation or the drainage tube become invaluable aids (for here empiricism is a thing of the past, and there are definite rules for their use), and after having invaded the peritoneum, torn loose innumerable bands, no careful investigation is made to see if any injury has been done to the viscera; the importance of replacing these organs in their respective places is often forgotten or left to chance. Had, however, this same patient chanced into the hands of the experienced operator, the modus operandi would have been reversed; who, if the growth is not a myoma or fibro-cystic in character, usually directs his attention first to the appendages, and if they cannot be removed he resorts to hysterectomy, knowing full well that to stop half-way will not cure,

but more often endangers the life of the patient. Take, for instance, a case of pyo-salpinx in which adhesions have become so intimate between the viscera and the diseased appendages that not only knowledge and skill but also a good supply of courage is often necessary to complete the operation. The grave results of leaving such a condition and closing the abdomen was one of my earliest and most lasting lessons. Fortunately I had only two cases; one died six months after the operation, from septicemia; the other had recurring attacks of pelvic peritonitis, but would listen to no second operation and passed out of my hands. In contrast to this, I saw Dr. J. Price operate recently on a case so deeply septic that the patient was delirious when placed on the table. She had been treated nine weeks for typhoid fever. The operation was difficult and complicated by adhesions to omentum, intestines, and abdominal wall; putrid pus was present in large quantities; the tissues were so soft and degenerated that it was difficult to get a good, clean stump, thus making it necessary to place the ligature in uterine tissue. After irrigation, injuries to the bowel were carefully repaired, the drainage tube placed, the omentum replaced, and the abdominal wound closed. The patient made a good and rapid recovery.

In a given case of ectopic gestation in which symptoms of rupture are present, there is often little or no time for deciding on any particular method or time of operating; in fact, no time should be lost, and it is all-important to remember that bleeding from a tube or ovary can be arrested promptly in but one way—by ligating close to the cornu of the uterus. There is no branch of surgery in which the student is not taught that where hemorrhage exists he should ligate the bleeding vessel at once. Why should that rule not hold good as well in the pelvis as out of it?

A few words regarding the use of solutions versus the liberal use of clean soap, nail brush, and hot water. It has been stated that it is necessary for those who use no solutions to drain more, in order to guard against the results of the septic matter carried into the pelvis; but if the published results of both are considered it will be found that those using no solutions still rank foremost.

Again, the tube, in their judgment, is used for two eardinal

reasons: first, when firm adhesions have existed, leaving many bleeding points, the peritoneum, having been injured more or less, is hence incapable of taking care of the blood poured out; and, second, when septic matter has been found in the pelvis—pus, decomposing matter, etc.—indicating careful and thorough irrigation, there is still some need to provide for the water remaining.

In eonelusion, the author would like to eall attention to certain facts regarding the best results, in answer to the question which gave rise to this paper, that—

- 1. Pelvic surgery should be left in the hands of the trained gynecologist.
- 2. Pelvic surgery has as distinct a place as eye surgery, requiring the same special training under those who have had a wide experience and attained best results.
- 3. Only close adhesion to the fundamental principles in surgery, early and prompt action after the diagnosis calls for operation, simplicity of method combined with aseptic and earefully completed work, will fortify the present status of our best operators and lead the way to still greater improvements.

1010 CLINTON STREET.

### CHOREA ET EPILEPSIA GRAVIDARUM.

A CLINICAL STUDY.1

ВΥ

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It is with much hesitancy that I approach you this evening with a paper in which I discuss a manifestation, or, if you choose, a pathological status, whose etiology is, and has been for years, a moot point, and whose pathology is to this day the common fighting arena of all living pathologists. But it is a subject full of latent interest to us as neurologists, general practitioners, and obstetricians. I shall discuss only

<sup>&</sup>lt;sup>1</sup> Read before the Metropolitan Society, February 24th, 1892.

chorea gravidarum and incidentally epilepsy in the strictest sense of the word. My observations I base upon a study of three cases which I have treated.

I see no reason why these disorders should be treated of differently from other perverted manifestations of the gravida; nor should I classify them, as is done, under the term "hysteria," the loophole of ignorance and inexperience. For example, among others Kaltenbach claims that pernicious vomiting, when independent of causes producing vomiting prior to pregnancy, is in all cases hysterical, depending on a functional neurosis. In one of his cases very marked vomiting ceased instantly when, after suggestion, the stomach was washed out. He claims that hyperemesis gravidarum, ptyalism, etc., are due to hysteria pure and simple, because of:

1. Their limitless course. 2. Their sudden cessation as a result of psychical or somatic causes. 3. The success of a variety of therapeutical measures, some of which are based upon very rare etiological factors. 4. The success of antihysteric measures, the bromides acting almost as a specific. It is my belief that the bromides act, especially in pernicious vomiting, more locally against the existing gastric state than generally against the heightened nervous irritability. Bromide has been especially recommended as a true remedy in the vomiting of pregnancy, for it acts in several ways: 1. It causes decided impairment of the sensibility of mucous membranes; therefore as a local anesthetic. 2. It produces contraction of small capillaries, especially of the small arteries, whose lumen may be entirely obliterated; hence as a local detergent. If Kaltenbach's assertions be correct he must cure, or at least very much improve, all those states which are mentioned as reflex nervous troubles depending on pregnancy, by strictly anti-hysteric remedies such as he advises—bromides, rest, isolation. Further, he must prove that his results are infinitely better than those obtained by other remedies or means which are purely empirical: as, for instance, Ahlfeld's method of cervical dilatation, the application of strong solutions of cocaine or silver to the cervix, and the newest and probably the best remedy we possess against the vomiting of pregnancy—the menthol treatment introduced by Gottschalk. It seems to me rather peculiar that, in spite of our high-strung and nervous,

irritable American women (I might rashly assert that at least fifty per cent of pregnant women are more or less hysterical), such pernicious states accompanying pregnancy, which, according to Kaltenbach, depend on hysteria, are still so extremely rare. Men with enormous experiences have never seen them, and yet we are supposed to accept such statements simply because they emanate from the mind of a master. The fundamental causal factor of hysteria is an impairment or deficiency of the volitional faculty; and this latter is rendered worse by the administration of bromides, whose exhibition is distinctly contra-indicated unless it be temporarily for the relief of some special form of unrest associated with the disease. For example, an hysterical palsy is dependent upon an impaired working or complete abolition of the will function determining the movements in the affected part. Stimulate this will function to activity by hypodermics of strychnine, and your palsy, in the greatest probability, will get well. Use bromides, and nothing will be accomplished and the probable cure will be deferred.

Etiology.—There is one etiological factor common to all, namely, an unstable condition of the nervous system. Nearly all cases occur in primiparæ. A fair number have had previous attacks of chorea some time in life, enumerated at about twenty-five per cent. It most frequently occurs in young women about the twentieth year—according to Mosler, in twenty-one cases, in which the age was known in sixteen, five cases from the seventeenth to the twentieth year, eleven cases from the twentieth to the twenty-fourth year. Barnes, who quotes the largest number, gives the greatest frequency of occurrence at between the twentieth and twenty-fourth years. The more potent causes, and those occurring in an overwhelming majority of cases, are those attributed to emotional and moral factors. Of my own cases, one was undoubtedly due to a rape, the other to a moral shock—an eminently respectable young woman, in a moment of indiscretion with her future husband, became pregnant, although she married before her baby was born; almost from the time of impregnation her friends noticed her changed psychical condition. Shame, sorrow, deprivation may also be mentioned. Heredity plays a small rôle in the etiology, according to most authors. Romberg quotes one authentic case where this cause can at least be assumed.

There are three theories as to the primary cause of chorea.

- 1. The rheumatic theory. In tabulating a number of cases it was found that twenty-five per cent of these cases had had rheumatism some time in life. This is far too small a number to indicate a potent factor in the causation of the disease in question. If we only very superficially analyze these cases as to this cause and compare them with women under ordinary circumstances, or even with men, we might ask the question: How many men, for example, pass through life and do not have rheumatic pains or true rheumatism with complicating heart lesions, either idiopathic or as the result of scarlatina! Rheumatism is far too common a disease to allow us to state with any degree of positiveness that it is primarily, or even secondarily, a prime factor in producing chorea. That it plays an important rôle I do not doubt, for (a) it weakens the system and causes anemia and thus a chorea; (b) it may cause an endocarditis, producing emboli and, through these, irritation centres in the brain.
- 2. The embolic theory, as advocated by Kirkes in 1863 and substantiated by Ogle. This theory is based on the belief that particles of warty vegetations on the cardiac valves become detached and plug up the capillaries in the brain, thus producing central irritation.
- 3. The germ theory of Koch. As a result of his investigations he has formulated three hypotheses. (a) Chorea is not to be regarded as a neurosis, for many facts suggest that it is an infectious disease. (b) The choreic virus attacks especially the cortico-muscular nerve tracts, the central rather than the spinal portion of these tracts. (c) The choreic virus is so closely related to that of acute articular rheumatism that either form of the disease can be caused by it. Endocarditis is also closely related to chorea, and if in any case it precedes an attack of chorea the endocarditis may in that case be considered as due to the choreic virus. I give this statement in his own words. How he reaches such a conclusion I do not know. I simply give it to show you with what complexity of thought the disease is surrounded. Handfield Jones claims that as yet no organic lesions can be posi-

tively claimed for the disease, whilst an equally good and competent observer (Herman) states that all the symptoms indicate organic changes in the brain, yet so far we have no means of detecting them. It cannot, as stated by Jones, be due to blood disease, whether rheumatism pure or anemia, for nearly every pregnant woman is either relatively or absolutely anemic, due to the hyperinosis and hydremia of pregnancy; for the disease is usually unilateral, whilst blood diseases are all marked by symmetrical phenomena. After advancing all known theories we are still deep in the mire and the true causation is vet surrounded by a mist of doubt. Generally speaking, I believe that the true cause of chorea depends upon a combination of several factors: 1. A latent or manifested predisposition. 2. Consecutive anemia with predisposition to the formation of cerebral thrombi or emboli, whether or not preceded by a history of rheumatism, cardiac trouble, scarlatina or other infectious disease. 3. The altered nerve state or nervous irritability which goes hand-in-hand with pregnancy. As before stated, just as hyperemesis gravidarum is due to an unknown factor, so is chorea. Why in one pregnant woman the explosion occurs in the shape of a gastric trouble, in another centres itself in the skin as an intense pruritus, or in a third as an intractable chorea, we do not know. As the enemy always attempts to strike the point or place of least resistance, so does disease. The woman who has weak nerves in many cases becomes more nervous; the woman with the history of chronic gastric trouble has excessive vomiting; the one with a prior Bright's disease rapidly becomes anasarcous.

Chorea is a disease that starts early in pregnancy. Barnes, in fifty-six cases, reports that the symptoms started in thirty cases in the first five months, in eleven cases in the last four months. The disease is certainly not very common. The lamented Scanzoni saw one case. Leopold saw four cases, all, peculiarly enough, associated with heart lesions. Spiegelberg in an enormous experience had only two cases. Charpentier had three cases. Barnes, as a result of a collective investigation of pure chorea, records fifty-six cases. In looking over a large amount of literature from 1889 to 1891, inclusive, I find one case reported by Volquardson in a five

months' pregnant woman; one case by Pantzer, one by Hicks of London, six cases by McCann, two cases by Koch, one case by Hirst, and two cases by Marshall. Of course there is no doubt that there are many more which are not reported.

Pathology.—Little is known as to the pathology of chorea gravidarum. Scanzoni refers to a case which he states is the only one in which post-mortem changes were found. It is the case reported by Ingleby, where the only lesions found were softening of the corpus callosum, septum pellucidum, and fornix. But Kirkes reports a fatal case in which vegetations in the valves of the heart were found, as well as small capillary engorgements in the central nervous system. Observations on this case led him to advance his theory of embolic origin.

Prognosis.—Of Barnes' fifty-six cases, twenty-two went to term; all the rest were delivered prematurely. In some few cases chorea terminates spontaneously or after medical interference. Thus in the case of Volquardson a woman five months pregnant was cured after a partial manual dilatation of the os uteri, and went on to full term without accident. In most cases the chorea ceases immediately after delivery, or at least the movements lessen very materially from this time on, and in a few days entirely disappear. A few instances are persistent for an indefinite time as chronic chorea. Still more rarely the condition changes, either gradually or suddenly, to one of the various forms of mania.

The prognosis as to life is rather bad. According to Fehling twenty-five per cent of the mothers die before or immediately after labor. Before labor the most frequent cause is either from an intercurrent malady dependent on the disease or from nervous exhaustion. After confinement the prior existing anemia, the exhaustion, the necessity of inducing labor, the instrumental interference, all make these patients more susceptible to septic influences. The prognosis to the child is bad, for as a rule children are premature or not viable. As to the future welfare of the child, it inherits the unstable nervous mechanism of its mother, and with it the predisposition to future nervous troubles.

The following is a brief record of my two cases:

Case I.—M. M., primipara, et. 20, born in United States. First menstruation at 14. Is a gracile blonde. Family history good. Has had all the diseases of childhood, including rheumatism, searlet fever, diphtheria, and a chorea lasting three years when very young. I saw her the first time when about five months pregnant. She had then recognized for two months that her old chorca was returning, but in an exaggerated form. It had appeared first as a unilateral ailment, and, gradually becoming worse, was then a universal manifestation. Examination revealed a normal condition of all viscera. Urine negative. Child was alive, and patient about five months pregnant. The choreic movements were extremely violent, and constant day and night. There was twisting, turning, tossing, and moaning, growing worse day by day. The movements were so violent that once I saw the patient thrown completely around in the knee-chest position. Forced feeding and rectal enemata sustained the patient for some time, but finally the condition became so violent that the patient was in imminent danger of doing herself severe bodily injury. Every variety of treatment was tried—bromides, chloral, hyoseine, morphine, chloroform, arsenie up to dangerous doses—but with no benefit. After consultation, as an indicatio vitalis it was decided to induce labor; but Nature spared us the trouble, for one hour before the time fixed for operating I found the patient with good and regular pains. Os admitted one finger and was very tense. This condition continued all day, when, to cause relaxation of this tense os, fifteen grains of chloral were ordered every half-hour until seventy-five grains had been exhibited. No constitutional symptoms followed. The os was now dilated so that two fingers could be admitted. All this time the chorea had been held partially in abeyance by sixty grains of bromide four times a day plus the chloral given. It was now decided to push matters, and, chloroforming the patient, the smallest Barnes' bag was introduced. Dilatation was pushed until the os was three-quarters dilated, when on examining I was surprised to find an arm in the cervix, which had been previously occupied by the vertex. In passing I might state that this has already occurred to me in two cases, where in using the bags for purposes of dilatation they had pushed up

the head, allowing a shoulder or arm to appear in the cervix as the presenting part. I was now compelled to do a combined version, which was easily accomplished. The half-breech was brought down and the trunk delivered. In spite of all manipulations I could not get out the after-coming head. During one of these maneuvres the head parted company from the trunk and was delivered, after a little trouble, by aid of the cranioclast. The next day the chorea was much less, by the sixth day the patient was practically well, and by the tenth day she was so well that she was ready to be up and around. It was an ideal convalescence, at least for such a case—one of the most perfect I had ever seen.

Case II.—A primipara, 23 years old. Family history perfect. Personal previous history good: no scarlet fever, no rheumatism; as a child she was seldom sick. I saw her the first time when she was about four months pregnant. She then presented symptoms of a general chorea dating from almost the first month of pregnancy. She submitted to a careful examination, which proved negative. In the urine nothing abnormal was found. Eliciting a history, I found as the only causal factor that she had submitted to the advances of her intended husband and had become pregnant shortly before she was married. From the fourth to the sixth month the chorea became rather more violent, but, in spite of this, the patient was not altogether confined to bed. The func-tions were all normal, the general condition good. This went on to the seventh month, the chorea being held in abevance by iron, arsenic, and baths. When well advanced in the seventh month, while walking, or rather stumbling, around the room one day to go to the closet, she was suddenly attacked by most violent choreic twitchings and was precipitated from the parlor-floor window into the yard. She sustained no very severe injuries, but the shock was great enough to severely aggravate the chorea and bring on her labor. In order to quiet the very severe movements, the patient was kept gently under the influence of chloroform during a rather short labor, and in fifteen days I had the pleasure of seeing my patient again in good health, the chorea entirely gone.

Now as to the second division of my paper—namely, epi-

Now as to the second division of my paper—namely, epilepsy occurring in a pregnant woman, independent of a prior existing epilepsy, either latent or manifested. I shall not comment or dilate upon the case, but shall simply state the history and allow you to decide whether it was an example of hysteria, hystero-epilepsy, or pure epilepsy as a symptom of a heightened irritability of the nervous tract of a pregnant woman. Eclampsia was positively excluded.

Case.—Mrs. D. B., age 18, primipara. First menstruation at 14 years. Prior history good. No history of convulsive attacks. Menorrhagia as a girl. Family history good as far as could be elicited. At the last menstrual period, which was very scant—she was probably already pregnant at that time—she had a severe convulsive attack of epileptic character. This was repeated every month up to the fourth, at the time corresponding to what would have been the menstrual period. I saw her for the first time April 26th, 1887, when six months pregnant. She had been having two fits a month. I found a woman in good condition, short and stout, inclined to plethora. Examination of organs negative. Urine normal in all respects. No edema. A severe abrasion on the head, the result of a recent fall during a fit, and a tongue showing evidence of laceration. Following history given by husband and wife: Aura well marked, gastric form, then a shrill cry (one of alarm); the patient falls to the ground, and is immediately seized by severe convulsive contractions, but the clonic contractions are not severe. The general convulsion is equally distributed and lasts but a very short time. No complete coma follows, only a very deep somnolence lasting about ten minutes, when patient feels very tired, but otherwise well. Immediately before the end of the attack the movements of the fetus become very decided—as the patient expresses it, as if her baby also had a fit. During the attack there is present frothing at the mouth and incontinence of urine, which latter symptom is constant. I ordered her a saturated solution of bromide of potassium, thirty drops three times daily, increasing five drops a day. I saw her again on May 3d, when she stated that she had had an abortive attack on May 1st, consisting of an aura, well-marked general tremor, violent twitching of all the fingers, followed by a very tired feeling. No further attacks, and the bromides continued. She was delivered at term very easily, the entire labor lasting one and a half hours,

normal in all respects. The next morning the child, a female, was seized with convulsions, also of an epileptic character, and died on the fourth day of a convulsion which I was unable to control. At the present time Mrs. B. is well, having passed through another pregnancy without a return of the convulsive attacks. Taking the symptoms as presented by the patient and verified by her husband and partly by myself, I believe I had a true symptomatic epilepsy of pregnancy to deal with. If this be true, and you coincide in my diagnosis, I certainly have been fortunate in meeting with a very rare case, very few cases of the kind having been reported.

1111 LEXINGTON AVENUE, March 1st, 1892.

# ACCIDENTAL HEMORRHAGE IN A CASE OF PREMATURE LABOR DUE TO HYDRAMNION.

BY

J. M. SLIGH, M.D., Granite, Montana.

Mrs. C. L., 33 years of age, Ipara, in good health, and without history of previous physical ailments, except a strangulated femoral hernia for which I operated about eighteen months ago, was taken with labor pains on night of November 11th, 1891. I was called at 5 A.M. November 12th, when examination showed obliteration of neck of womb, and os open so as to admit index finger, against which the bulging membranes could be felt at each pain. She informed me that she was but five months, pregnant, but I insisted that she must be mistaken, basing my opinion upon the fact that her abdomen was larger than those of the majority of women at nine months, and the condition of the cervix and the os. She insisted, however, that she was right, and informed me that she had grown enormously within the past month. an anodyne with instructions to remain quietly in bed. Saw her twelve hours later, when os was dilated to size of a quarterdollar silver coin, through which I could easily distinguish a breech, the membranes intact. Pains, which had ceased for a few hours after my first visit, were now about same as in

morning, moderate in severity, and about fifteen minutes apart. Notwithstanding her assertion to the contrary, I still believed her to be at full term, and informed her that labor would undoubtedly proceed until her child was born. Gave another anodyne and instructions to send for me when pains were five minutes apart. Saw her again at 9:30 A.M. November 13th, when os was about one and one-half inches diameter, through which membranes protruded with each pain to near vaginal opening, and in intervals between pains a breech could be plainly felt through membranes and contained fluid; but the presenting part was evidently of a small fetus, which suggested to me that I might probably have been mistaken in my expressed opinion that she was at full term. Pains were now severe, about five minutes apart, and, not wanting to break membranes until after arrival of nurse, who had been sent for, I commenced to cautiously administer chloroform, which I practise in all normal labors. At 12:15 P.M. the os was between two and three inches in diameter, when I broke the membranes, and the bed was instantly delnged by the largest quantity of amniotic fluid I have ever seen in any one case. I was instructing the nurse to clean the bed when I noticed the patient growing pale, at the same time hearing a gushing sound. I threw back the covering, and from the vagina came a stream of blood nearly as large as my wrist, striking the feet of the patient and the footboard of the bed. Instantly forcing my hand into the vagina and uterus, I grasped the presenting fetus, delivered it at once, dropped it on the bed; reinserted my hand, to find a second fetus, head presenting, which was out and on the bed in less time than it takes to tell it; and for the third time my hand went into the uterns to deliver placenta, but, the uterns commencing to contract, I allowed my hand to remain, and with my other hand making compression through the abdominal walls, the uterus contracted finely and all hemorrhage ceased. I did not at once attempt to remove the placenta, but withdrew my hand, and insured continued contraction by grasping the uterus through the abdominal walls, delivering the placenta about half an hour later with placental forceps.

From the time the hemorrhage began until the fetuses were delivered (both males, apparently of five or six months'

growth) and the bleeding stopped, was probably not over forty or fifty seconds, but in this short time the patient had lost six pounds of blood (estimated) and was in a condition bordering on syncope, pulse not distinguishable at wrist, sighing respiration, and pallor of surface. She responded well to the usual treatment for severe hemorrhage and made an uneventful recovery, with the exception of a double mastitis which was terminated without suppuration.

In the foregoing case I can assign no cause for premature labor except the overdistention of the uterus by the immense quantity of liquor amnii, which had evidently collected largely during the month last preceding labor. The especial point of interest is the alarming accidental hemorrhage and its cause. It arose, undoubtedly, from the sudden evacuation of an unusually large amount of liquor amnii, together with failure of immediate contraction of the uterus, thus taking from the placenta and uterine walls the pressure to which they had been subjected, causing the placenta to be torn from its site, with consequent escape of blood from the broken vessels between the membranes and decidua. While it has been my fortune, or misfortune, to have a number of cases of accidental and unavoidable hemorrhages in my practice, I have never heretofore seen one from the same cause as this, and it is unique so far as I can determine from reference to text books and journals.

### CORRESPONDENCE.

IS A RIGID OS WITH PLACENTA PREVIA AN ABSOLUTE INDICATION FOR CESAREAN SECTION?

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS, ETC.

DEAR SIR:—On page 360 of the March number of The American Journal of Obstetrics and Diseases of Women and Children appears a communication signed by Julius Rosenberg, M.D., of New York, in which he discusses the question, "Is a rigid os with placenta previa an absolute indication for Cesarean section?" and to arrive at the conclusion that it is not (in which I agree with him on general principles),

he criticises a report of a case of Cesarean section contributed by me and published in the February number of the Jour-NAL. In contributing my clinical report I had no idea of establishing an indication for Cesarean section in a rigid os, but believed then, as now, that in the particular case reported such an indication did exist.

If I had had at the time a suspicion that said report would have deserved and receive, at the hands of so eminent a gentleman as Dr. Rosenberg, a critical analysis, I am quite sure I would have been more explicit and prolix in my recital of details, and possibly might not have contributed it at all in the absence of examination of microscopical sections. However, the case, as made, is in, and I have no right or desire to object to criticisms made in good faith, provided their tone is not too paternal. Dr. Rosenberg asks:

- 1. Did there exist malignant disease of the cervix?
- 2. Was there an absolute indication for the sectio Cesarea? Which means, Was it possible to deliver an even mutilated fetus per vias naturales?
- 3. If Cesarean section was absolutely indicated, was it best to select the conservative method of this operation?

To the first question I answer, Yes, undoubtedly; basing my answer, not because microscopical sections had been made, which are "often unsatisfactory and inconclusive, and the removal of sufficient tissue to admit of careful and thorough study may so mutilate the organ as to offer no advantages to amputation" (Dr. A. F. Currier, p. 376, Am. Jour. of Obst., etc., March, 1892), but from sight, feel, etc., and comparison with former cancerous cervices, both in pregnant and non-pregnant women, falling under my observation. That the woman gave no history of local pains or ichorous discharge, was well developed and nourished, and 32 years of age, does not contra-indicate the existence of cancer of the cervix, as I wellknow from experience, and have no doubt that Dr. R. also knows. Interstitial fibromata would not simulate the condition here found and described. That it might possibly be due to cicatrices, the result of previous lacerations, appears to me to be so remote a possibility as not to merit serious consideration, had the suggestion come from a less weighty source than Dr. R.

To the second question I must admit that relative indication would have been the better expression, if Dr. R. is correct in his definition of absolute indication, which is that given by the earlier operators, though I am under the impression that of late this definition has been materially modified; but, owing to a lack of time in which to verify my impression in this regard, I cannot at present contest the point. My article nowhere states that the fetus was dead, until it was so found on operation, while, as a matter of fact, it was known to be alive on November 4th and 5th, four days before operation, and was supposed to be alive at time of commencing operation. He must be a particularly accurate diagnostician who, knowing the fetus to be alive on November 5th, could have positively known of its death in this case before operation; and the supposition that it was alive had its influence in determining the sectio Cesarea.

Had I had as strong a belief that rigidity of cervix depended on "inflammatory changes," "cicatrices a result of previous lacerations," or "interstitial fibromata," as I had that it was cancerous, I might have delivered by incisions of the cervix; but since a previous experience I shall probably never attempt delivery by incisions of carcinomatous cervix again. In 1885 I attended a confinement case where the conditions were almost identical with the case in hand. The woman was 33 years old, apparently in perfect health, as well if not better developed and nourished than was Mrs. H. N., had never complained of local pains or ichorous discharges, and whose cervix at about three months of pregnancy (when I had occasion to examine her) gave no indication of disease except a small laceration at a previous delivery.

On examination after labor pains had set in, a condition similar to that described in my report was found, induration not being found in any of the surrounding tissues. Doctors J. and S., two former presidents of the Michigan State Medical Society, were called in consultation, and as a result of deliberation the patient was delivered by aid of forceps, after sufficiently incising the cervix. About one month after delivery the entire cervix and lower portion of uterus had sloughed away, and the recto-vaginal and vesico-vaginal septums were so plainly infected by the cancerous growth that I

declined to assent to an operation and sent the patient to Dr. T. Gaillard Thomas for advice. Dr. Thomas advised against an operation, the woman dying about four months after delivery.

I believe that the method of delivery was the exciting cause of the rapid spread of the cancerous disease, and should not be adopted in similar eases.

To the third question, with a qualification, I answer, Yes. We must remember the surrounding circumstances. On the top of the Rocky Mountains, in mining camps, there are no modern "well-appointed hospitals, where trained assistants and every other aid are at command," and of course it cannot be expected by Dr. R. that in this wild and woolly West are to be found "men well trained in performing abdominal section." However, here was a case demanding some action for relief short of expressing the patient to New York, and in my judgment her chances of recovery were better under the conservative operation than by any other method.

If, in my judgment, it had been possible to do Porro's operation with equal chances for the woman's recovery from the operation as from the conservative operation, it would have been made; but I believed that, should the patient survive the operation made, it would afford a better opportunity to decide upon whether her condition demanded Porro's operation or simply an amputation of the cervix.

While I have made several abdominal sections, I am one of that still numerous class of general practitioners whose judgments as to courses to be pursued in practice must always look to the most probable favorable results, we not having all the accessories (including free practice material) that are enjoyed in New York.

In Pozzi's "Medical and Surgical Gynecology," vol. i., page 389, the following is recommended in cases of cancer of the cervix complicating pregnancy, viz.: "The following operations may be adopted, according to the special conditions of each case: (a) Induced labor, with hysterectomy after a few days; (b) Cesarean operation, with colpo-hysterectomy later."

Very truly,

JAS. M. SLIGH.

GRANITE, MONTANA, March 25th, 1892.

## TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF CHICAGO.

Ar the annual meeting of the Society, October 16th, 1891, the following officers were elected for the ensuing year:

President-J. Suydam Knox.

First Vice President—BAYARD HOLMES.

Second Vice-President-J. T. Watkins.

Treusurer-F. E. WAXHAM.

Secretary-Henry Parker Newman.

Editor-W. W. JAGGARD.

The Society then adjourned to the banquet tendered by the retiring President, W. W. JAGGARD, at the Grand Pacific Hotel.

Regular Meeting, November 20th, 1891.

The President, J. Suydam Knox, in the Chair.

Dr. Franklin H. Martin exhibited

SPECIMENS FROM A SERIES OF ELEVEN CASES OF LAPARATOMY.

All of these specimens are of pathological interest, and they represent a series of eleven cases I have operated upon since October 14th, a period of one month. I have had the aid of Dr. F. B. Robinson in bringing out the interesting

points in some of the specimens.

Case I.—Dr. Robinson has not finished his critical examination of these tubes. This case was operated upon at the Charity Hospital, October 14th, on account of a small ovarian cyst and the appendages on the tumor side. There was retroversion and adhesion of the uterus. The retroversion was corrected and the adhesions broken up and ventral fixation performed. Patient had no elevation of temperature after

the operation, and was discharged in four weeks.

Case II.—Age 35; five children. The history is one of nervous trouble. She had suffered pain and nervous disturbance at menstruation, and throughout the month had excessive pain in the pelvic region. The uterus was retroverted. Upon opening the abdomen I found disease of the appendages and a cyst of the left ovary. Removed the cyst and appendages of both sides. Anteverted uterus and fixed it to abdominal wall. Dr. Robinson's report on these specimens states:

"In this case the tubes are convoluted and studded over with blisters or peritoneal sacs containing a cloudy fluid. The blistered tubes, Mr. Tait tells me, come from women who suffer much pain. The tubal wall had a typical hernia of one-half inch. The probe entered it from the tubal lumen and the point showed itself under the peritoneum. The pathology of these tubes is, first, spiral convolutions, which show reversion to fetal type; second, blisters on the tube; third, hernia of the tubal wall. All else is normal. The left ovary is normal, the right distinctly pathological."

Case III.—The next ease in the series was one of typical multiple cyst of the ovary containing twenty-four pints of fluid. It was removed without difficulty at the Woman's Hospital, October 24th, and the patient has made an uninterrupted recovery, without elevation of temperature, and is

now ready to return home.

Case IV.—This ease was of great interest to me, although it was fatal. It was cancer of the uterus, which I removed per vaginam. The death is deplorable, because it will have weight in deterring others from giving their patients this only hope. A number of the first eases I operated upon by vaginal hysterectomy for cancer, two and three years ago, are now in perfect health, who in each ease would otherwise have died within three months. These were eases in which the cancer extended to the fundus, and high amputation would have availed nothing; but by removing the uterus these patients have recovered, and at least four eases of over two years' standing are living in which the diagnosis is unquestioned.

This patient was a lady of wealth and refinement, who, while travelling in Europe, and her health failing, was advised to go to Prof. Playfair, of London, for an examination. He examined her and kindly referred her back to Chicago for treatment, and honored me by mentioning my name as the operator. While this case was the last one I should have thought would die of my whole series, she did die on the

fourth day because of a fatty heart.

Case V.—A young lady, about 28 years of age, had suffered great pain and had symptoms of pelvic abscess. There were marked retroversion and adhesions of the uterus, and a tumor in the right side. Laparatomy was performed at the Woman's Hospital, October 27th. I removed a diseased tube, filled with pus, from the right side. The other tube was apparently healthy and was left intact. The uterus was anteverted, the adhesions broken up, and ventral fixation made. In enucleating the right tube, which was accomplished with great difficulty, I denuded about two square inches of the large bowel of its serous coat, and while operating about four

ounces of pus ruptured through the end of the tube among the intestines. The cavity was carefully washed out with large quantities of sterilized water and the denuded portion of the bowel covered with omentum. A glass drainage tube was put in for forty-eight hours. The patient recovered without elevation of temperature. Dr. Robinson's interest-

ing report of this ease is as follows:

"The right tube shows parasalpingitis, salpingitis, and endosalpingitis. The peritoneum covering it shows signs of recent and ancient peritonitis and is covered with lymph shreds. The tubal walls are thick and edematous. The fimbriæ are healthy in appearance. The tubal wall shows a hernia near the end. It admits a probe which comes out to the peritoneum, which shows that it is a true hernia and that there is a deficiency of the muscular wall. This tube is a splendid example of double ostia abdominalia. The broad ligament is edematous and much thickened; there are infiltrations, with signs of old and recent peritonitis. This tubal disease is the result of slow and progressive infection, probably from gonorrhea. This infection seems to have begun first as an endosalpingitis, second as a salpingitis, and third as a peritonitis, and proceeded as a gonorrheal infection."

The tube on the opposite side was perfectly normal—a fact well to remember in connection with this case, because Dr. Robinson considers it gonorrhea, while the history of the case in every respect would lead one to believe that it was not

gonorrhea.

Case VI.—This is also interesting. A young lady about 30 years of age, unmarried, was referred to me by Dr. Brinkerhoff, of this city, with a history of peritoneal inflammation, excessive pain, and a tumor in both broad ligaments. She was advised to have an operation, and laparatomy was performed at the Woman's Hospital, October 29th, 1891. The principal point about the operation was the difficulty of enucleating the tubes. Upon opening the abdominal cavity there was found an agglutinated mass which appeared almost impossible to unravel, and over an hour was consumed in removing

the tubes. Dr. Robinson says of this specimen:

"This is gonorrheal tubal infection, and is a remarkable specimen. The tubes and ovaries are in a marked edematous state. The right ovary is dilated to the size of a plum and is cystic; its peritoneum is covered by recent and old lymph shreds; an ovarian cyst lies right at the mouth of the fimbriæ; the infection was carried to the ovary. The tube is still more remarkable; it is thicker than the thumb and very edematous; its peritoneal covering shows lymph shreds and old and recent peritonitis; the tubal walls are one-fourth inch thick in places; the mucous membrane is edematous and degen-

erated. The tubal lumen is dilated so that it will admit the little finger in the left tube and a lead pencil in the right tube. The tubes both alike show the distinct result of infectious disease of long and slow progress. I think this is gonorrheal infection."

There is as little reason to believe that there is gonorrheal infection in this case as in any case you could find. The lady is in every way beyond suspicion, and I cannot myself believe

that this is the result of gonorrheal infection.

Case VII.—This case was operated upon November 9th. An unmarried lady, aged 32. The history is one of severe pelvic pain and severe dysmenorrhea. Dr. Robinson says of

the specimens:

"One ovary was covered with wrinkles and scars and a few cystic Graafian follicles, the other was distinctly pathological in follicular degeneration. In one tube the walls of the mucous membrane and peritoneum appeared normal to the eye; it had an accessory ostium. The broad ligament showed three cystic dilatations; one of the cysts lay in the fimbriae of the tube. The other tube showed a normal wall to the eye, as far as the mucous membrane and peritoneum were concerned. It presented an accessory tube three-fourths of an inch long, which appeared to spring from the side of the tube."

Case VIII.—Of the eleven cases of the series, for this one I have no specimen, the case resulting in nothing more than an interesting exploratory. The lady, aged 52, was referred to me by Dr. J. H. Hollister, of Chicago, for operation for large abdominal tumor. The advanced age of the patient, the recent and rapid growth of the tumor after the menopause, and the large size of the growth pointed directly to a tumor of a cystic nature. No sensation of true fluctuation could be elicited, however. An exploratory incision was made October 28th, 1891, at the Woman's Hospital. The tumor proved to be an enormous fibroid firmly adherent in the pelvis. It had elevated the peritoneum anteriorly, so that the deflection was but three inches below the umbilicus. The bladder reached nearly to this point and was adherent. The abdomen was carefully closed. Patient recovered.

Case IX.—This case was of considerable interest to me, inasmuch as it had been treated by a number of physicians and the history was known by me for at least three years. This case was an old stand-by in the Woman's Hospital; had been treated by the late Prof. Byford, and, I believe, by almost every member of the medical staff. She had a fibroid three years ago which measured four and a half inches in depth. The uterus at this time was retroverted and adherent to the surrounding tissue, and Dr. William H. Byford referred her

to me for treatment with electricity, which was used faithfully at that time and with all the enthusiasm I could bring to bear, and with the result that the tumor very rapidly disappeared, including the hemorrhage and other symptoms, so that the woman a year ago was considered well. About three months ago she commenced to have excessive pain in the pelvis, especially at menstruation, although there had been no increase in the size of the uterus. I opened the abdomen November 12th, 1891, and found the uterus normal in size, while before the treatment with electricity it had measured four and a half inches, and I removed a pair of badly suppu-

rating tubes. The woman recovered.

Case X.—This ease is of no special interest; it is one of cysts of both ovaries filled with a jelly-like material. I operated upon the case the same day as the one last reported, November 12th, at the Woman's Hospital. The only thing of interest in the operation is the fact that the right cyst was buried in the broad ligament, and the disease of the cyst was such that it was impossible to remove it in the ordinary way, by enucleation, and I was obliged to ligate by "coobler's stitch" beneath the cyst in the broad ligament. The peritoneum was also studded with papillæ, and upon the omentum there was a large mass of this pathological material, which was the same as contained in the cyst—colloid cancer. The abdomen was closed without drainage, and the patient has not had an elevation of temperature since the operation.

Case XI.—This is of no special interest, except in one point. The patient was 52 years old, had had three children. Referred to me by Dr. Eibelberger, Sioux City. The diagnosis was multiple cystic tumor. She had multiple cysts of both ovaries; the one on the left side was buried in the broad ligament and covered completely with four or five loops of intestine, and in the centre of the mass was buried the cecum. In enucleating and separating the cysts in order to remove the cecum, I discovered at the appendix an abscess containing about two ounces of pus. I succeeded in enucleating the tumor by separating it from the cecum, and in so doing denuded about three square inches of the peritoneal surface of the bowel; I also removed the appendix. After ligating the appendix the denuded bowel was covered with an omentum graft. After washing the abdominal cavity thoroughly and drying it perfectly, I closed the wound without drainage. The operation was done a week ago, and the woman has had no temperature and will undoubtedly get well. (The case made an ideal recovery.)

Dr. T. J. Watkins.—I would like to ask Dr. Martin what his method is of covering over the denuded intestine with

omentum, and also the pathological significance of hernia of the tubes.

Dr. Fred Byron Robinson.—One significance of hernia of the tubes is that it might create tubal pregnancy if the ovum slipped into the hernia as it went down and could not get by. The cilia would not whip the ovum onward. I found three herniæ in these six tubes. What I mean by hernia of the tube is that the muscular wall of the tube has given way, and the probe will pass from the lumen of the tube into the sac, and the end of the probe will come out under the peritoneum. It might also give lodgment to infectious material. In examining several hundred tubes I found in many places that the wall was not uniform; it would be very thin at some points and thicker at others. This might have been brought about by a local lesion in the tube, produced by infective material which desquamated the ciliated epithelium and thus thinned the wall. But that would not account for all the hernia arising towards the fimbriated end. Prof. Landau, of Berlin, has made a report of a great number of tubes with hernia that he has examined. It is not a rare condition; I find a great many herniæ.

Dr. Martin.—In answer to Dr. Watkins' question, I seek to cover the denuded portion with omentum, and, where possible, attach it to the edges at the mesentery; and if the edges roll up, the omentum is attached on the side also, through the

serous coat.

## A SPECIMEN OF COMPLETE DECIDUA VERA ENCLOSING THE OVUM

was presented by Dr. W. W. Jaggard, who said: This specimen shows the *decidua vera* enclosing an ovum, corresponding to the sixth week. It presents a perfect cast of the cavity of the uterus.

I present this specimen for two reasons. In the first place, the notions of many practitioners on the physical characters of the decidua are obscure and confused. The decidua is a membrane—a visible, tangible object. The importance of the decidua as a diagnostic sign has increased in recent years, since value is justly attached to its extrusion as a sign of ectopic gestation. This decidua is of the normal size and thickness, which varies up to one centimetre to the end of the second month; after this time it diminishes in thickness. In three cases of extra-uterine pregnancy that have come under my observation within the last year, there was an extrusion of decidua, and this assisted materially in the diagnosis of the condition.

The second reason is on account of the history of the case.

This specimen I removed from a woman about 30 years old. She has been married four years, and this is the fifth spontaneous miscarriage occurring in that time. Her husband, who is a strong, healthy man, acquired syphilis in 1875 in Paris, and was under Fournier's treatment for five years. Fournier thought he was cured to the degree that a man can be cured of syphilis, and on the strength of this the man married. He has since been under the treatment of two or three gentlemen in Chicago, each of whom has in turn pronounced him cured and capable of procreation. He has been under my care for the last two years, and this is the second miscarriage that has occurred under my care. His wife up to the present time has shown no positive signs of She may have been infected, however—Collis law. My impression is that the father in this case has infected the ovum; still there are microscopical signs of decidual endometritis, and it is quite possible that the woman has miscarried independently of syphilitic infection. It is impossible to demonstrate syphilis objectively in a specimen of this date. I call the attention of the Society to the specimen in connection with these two points, which I hope to embody in a paper before the end of the year.

Dr. Knox.—I would ask if it is not extremely rare for a miscarriage to occur so early in gestation as the result of

syphilis.

Dr. Jaggard.—It is unusual, unless the paternal virus is especially virulent. When the disease is of maternal origin the rule is that the woman either does not conceive or that miscarriage occurs later.

Dr. NEWMAN.—I would ask if the woman has been sub-

jected to a constitutional treatment.

Dr. Jaggard.—She has. She went to Germany last summer and was put through a thorough mercurial course of six months. She became pregnant some time in September.

Dr. Fred Byron Robinson exhibited a case of Dr. Doddson which he operated on eight weeks ago by the Tait flap-splitting method. There was very little scar visible, and after eight weeks' shrinkage the perineum is from one to one and one-fourth inches long, the new healing is a full inch, and there is a half-inch from the rectum left of the old tissue.

Dr. John A. Lyons exhibited a patient upon whom he had asked Dr. Robinson, if advisable, to do Tait's flap operation. He wished to present her before the operation, and would endeavor to present her again after it had been performed.

Dr. F. B. Robinson.—The object of exhibiting this patient is simply to show how the cuts are made. The seissors point is sunk in the septum as deep as your judgment indicates, one-

half to three-fourths of an inch, then the point is run along the tissues at the edge of the labium and a clip made with the seissors. Sink them in the centre again and go on up under the tissue of the other side as high as the caruncle there, let the point emerge, and clip with the seissors a Vshaped incision. In a case like this, which is not very extensive, you would not need back cuts. Take a forceps and seize the vaginal flap and draw it up toward the uterus, then with another forceps draw the posterior flap toward the rectum, and you have an oval surface. Take a needle with an eyed end and put it inside the skin, and push it under the tissues to the other side, and tie it with silkworm gut. I usnally put in four stitches, putting them all through first, then tie them and cut the ends off, and leave them in five or six weeks; they are really buried stitches, because they do not suppurate. The sutures do not go through the skin or mucous membrane, and do not suppurate. The needle should be introduced just inside the margin of the cut. Suppose the vagina and rectum are torn through: put the point of the seissors up to where the bootjack angle of the septum comes, and sink it in half an inch, then go right along up the labia and clip, simply resplitting the old cicatrix with the blade of the seissors. The trouble will be in the high operations, where the septum is thin and you are apt to get a pocket.

Dr. Robinson then read a paper on

#### PERINEORRHAPHY.1

Dr. Bayard Holmes.—There are two points I would like to speak of. First, I believe the suture which Dr. Robinson calls buried falls a little short of the ideal result, because it is not a permanent buried suture. It is buried temporarily. think it causes less pain than if it went through the mucous membrane or skin, but it is still a temporary buried suture. I wish I could show you what I consider to be the proper method of proceeding in placing a suture in the perineum, as well as in other places. The ideal suture material is perfeetly flexible and perfectly smooth. Silkworm gut is perfeetly smooth and takes up as little infection as possible when passing over infected material, but silk is the most flexible, and, when it is clean, it is the ideal suture, hence I advise its use.2 The suture should be placed just below the mucous membrane or skin and passed as far out as the condition of the tissues will allow, then go across on the opposite side in the same manner, then the two ends should be brought

<sup>&</sup>lt;sup>1</sup> See original article, page 617. <sup>2</sup> "The Buried Silk Suture," North American Practitioner, November, 1891.

together and tied. If the needle is passed far enough out into the tissues of the perineum, the knot will sink out of sight as soon as it is cut off. It will be entirely removed from the possibility of infection, and it will be an additional source of strength to the perineum. Primary union will take place throughout the wound. Where there is immediate union there is no scar, but where there is suppuration along the edge the scar appears. The silk is clean when it is put in, and it remains buried in the tissues, hence remains perfectly clean. In every case in which I have used it, it remains deeply buried and causes me no trouble whatever. In the scrotum and parts where there is great tension, in resection of limbs and coaptation of surfaces where I have removed large fatty tumors, I have had no trouble in burying the sutures entirely out of sight and they have caused me no trouble. would urge the gynecologists to try this method. I believe that in a few years you will laugh at a man who puts a suture through the skin. You will look upon it as you do now upon the old practice of tying an artery and leaving a long string

on the suture to pull it out by in a few days.

Second, Dr. Robinson has given ten methods of preventing prolapse, and he mentions as one of the causes intra-abdominal pressure. He predicts that of all the causes it is the one which there is no possibility of removing. There are three flexible walls to the abdomen: the first, the diaphragm, moves at every inspiration; the second, the abdominal wall, moves inward and outward, and is very flexible when you consider the attachment it has to the pelvis and ribs; the third one ought not to be flexible and ought not to bulge outward and inward with changes of intra-abdominal pressure, but the woman, following the fashion, immobilizes the anterior abdominal wall and increases the intra-abdominal pressure. With every movement of the diaphragm and every turn which the thorax makes toward the pelvis the intra-abdominal pressure is increased and greater pressure is brought to bear on the pelvic floor-the one remaining and unprotected-and, not being able to stand all the changes of pressure, it gradually gives way more and more until, when the perineum is gone, there is prolapse of the contents of the pelvis. It seems to me that as scientific men we ought to recommend the removal of one of the principal causes of prolapse. It is irrational to treat any woman by Tait's flap method, or any other method, who wears a corset. As long as she is determined to wear corsets and skirts around her abdomen she ought to suffer prolapse. Surgeons should not prostitute their art to fashion.

Dr. J. A. Lyons.—I wish to say, regarding the case I presented this evening, although the laceration is to the eye

apparently slight, in introducing the finger on either side along the pubic rami, and pressing down steadily on the vulva and vagina toward the coccyx, I find the support on the left side to be very little, while upon the right side the support is good—that is, there is a pelvic muscular cushion on the right side, which is lost to the finger on the left side. For that reason I have thought that the operation as done by Dr. Watkins, which I believe was introduced by Emmet, of New York, would be a better operation than the flap method. For this reason I shall ask Dr. Robinson to examine this patient again when she is not so nervous, to determine which of the two operations, if any, shall be done.

I must say, in regard to the remarks of Dr. Holmes, that I think it will be found there are many elderly women, especially among the Germans, who seldom wear corsets, that have great suffering from prolapsus uteri. Such has been my observation, so I do not think in all cases his point is a

good one.

Dr. S. L. Weber.—I am a great admirer of Tait's operation and have advocated it whenever I could. I believe it is an admirable operation when done in proper cases, and that the criticisms against it have been of cases where the operation ought not to have been done. I think we should sharply define the use of this operation, and not try to force it on cases where it is not applicable. Dr. Robinson has said that the operation ought to be extended to what he calls Tait's extension operation, so as to apply it to prolapse. I believe that is wrong. This operation should be done only in cases of laceration of the perineum. If the laceration has been of long standing, and if as a partial result of it there is prolapse, I do not think Tait's operation alone will do. As Dr. Watkins has said, one of the main supports of the uterus is the perineum. A laceration of the perineum always leaves untorn the upper portion of it. This still affords a support to the uterus. Tait's operation repairs the torn part and we then have a complete perineum. But if in old cases of laceration, and partly in consequence of it, we have added to this lesion a rectocele, the condition of affairs is different. The upper, untorn portion of the perineum becomes thinned out and relaxed, so as to be no more any support to the uterns. Tait's operation now, although it restores the lacerated, lower part of the perineum, does not help the rectocele, does not restore the relaxed, thinned upper portion. Further, if in such cases there is any prolapse or tendency to prolapse, Tait's operation does not help this to any material extent, for it is the upper portion of the perineum which forms the immediate support to the uterus. In such a case Tait's operation only forms a shelf on which the relaxed vaginal wall, the

rectocele, and the possibly prolapsed uterus rest. A most delusive condition of affairs! It is such cases that have served as examples for criticism and condemnation of Tait's operation. I therefore do not think that Tait's operation should be done where rectocele is present, and certainly not where prolapse is present. It should be done for lacerations simply. Dr. J. C. Hoac.—I have very little to say in regard to this

paper, and I rise mainly to ask questions. I saw this operation done five or six years ago by an acquaintance of Mr. Tait, who had learned the operation from him. He operated on a case of procidentia, the operation being done in the main as Dr. Robinson has suggested, with this exception, however: the scissors was introduced at one side, run right around, and brought out on the other side without being introduced a second time. In this instance the operation, I am sure, was entirely inadequate to the case; I could not see that it did more than raise a little shelf in front. Since then I have seen the operation done once or twice by Dr. Byford, who did it in a manner somewhat different from that described by Dr. Robinson, but it was also a flap-splitting operation. Dr. Byford took a great deal of pains in putting in the sutures in the angles. When the flaps are separated the separation takes place much more readily on the sides than in the middle line; one can easily push the finger up on either side under the mucous membrane, and the tissues seem to separate much more readily in these directions. Dr. Byford, after making a pocket on this side and that, spent a considerable amount of time in introducing sutures in the sulci. There seemed to be a great deal of mechanical difficulty in doing this, and I wish to ask Dr. Robinson about it. As I have seen the cases, these are very apt to be the points of extensive lacerations, which may extend off in this direction rather than in the median line.

I also want to ask him whether he always makes what he calls the "back cuts," and what the indications for these cuts

are.

I have tried the flap-splitting perineal operation and have been greatly pleased with it. I believe it is destined to largely supersede former methods of operating, especially if it can be modified, as I believe it can, to meet special indications.

Dr. Franklin H. Martin.—I wish to say a word in regard to the case in which I used the buried silk suture after Dr. Holmes' suggestion. It was not a Tait operation, but one where the sulci were opened—a modification of the Tait operation. A slit was made here on either side of the column of the vagina, and the bottom taken up with deep sutures; that is, the angles were brought together, and instead of using catgut I used the silk. Following Dr. Holmes' instruc-

tions carefully, I introduced a continuous suture of silk just as I would use catgut, and burying it, not drawing it tight enough, however, to strangulate the tissues. After getting through, by separating the mucous membrane or skin slightly I could see these stitches, and I wondered what would happen to the patient if some part of it should become septic; the whole would have to come out. So just within the edges of the skin I placed silkworm-gut sutures, not coming in contact with the silk, but sufficient to cover it and bring the tissues together outside of it, but still not penetrating the skin and mucous membrane. I watched that patient very carefully and with a good deal of anxiety. About two weeks ago she left the hospital. It was one of the most perfect results I have ever seen. There was no elevation of temperature and not the slightest suppuration, and I am positive that the silk suture in that case is a success. If one is clean I think the buried suture for the perineum will answer the purpose.

Dr. Henry P. Newman .- I wish to thank the essayist for his interesting presentation of Mr. Tait's flap-splitting operation. The technique of this operation is very simple, and in the superficial tears it very speedily restores the relation of the auterior and posterior vaginal walls and affords a very serviceable perineal body. In the complete tears, as well, it acts admirably in coaptating a large amount of firm lateral tissue together with the torn ends of the anal sphincter, giving more general satisfaction than most of the operations it is intended to replace. I must, however, take exception to the so-called "extension operation" for rectocele and cystocele. True, it may close up the external orifice to almost any extent, but the thinned and weakened vaginal walls above are not included in the process of restoration, and a recurrence of cystocele or rectocele may reasonably be expected. I take exception also to the statement of the essayist that Mr. Tait's is the only operation which restores the parts to their original relations. I think there are others which accomplish this quite as well. I have myself done a flap-splitting operation for many years which for ordinary or incomplete lacerations restores the parts to a more natural condition and gives in every way as good support. An operation which cuts into the labia minora and necessitates a folding-in of their tissue into the vaginal orifice cannot claim to restore the parts to a normal state. Indeed, while we would give all due credit to Mr. Tait for extending the usefulness of perineorrhaphy in the European and Continental medical world, and adding to our knowledge of dealing with complete tears of the perineum, we should not lose sight of the fact that a similar flapsplitting operation had been done in this country for at least

ten years prior to the announcement of this method by our

English contemporary.

The essayist has gone a little out of his way, I believe, to criticise shortening of the round ligaments. He has attacked the operation indiscriminately from both theoretical and clinical standpoint, and he makes the same mistake that has been almost universally made by those who are clinically unfamiliar with the operation—that is, that the round ligaments are used to support the uterus in the sense of suspending or holding it up. In one sense they may support, but not in the sense one would infer from the remarks. The office of the round ligaments is as stavs rather than supports, holding the uterus forward, anteverting it; just as the broad ligaments keep it from swaying to one side or the other, and the sacrouterine ligaments keep it from sinking toward the symphysis pubis. For the purpose for which they are designed, the operation of shortening the round ligaments is theoretically correct. There cannot be procidentia or prolapsus in an anteverted uterus. And where a proper operation has been done, which means not only the employment of a rational method of operating, but the correction of co-existing difficultiesby colporrhaphy, trachelorrhaphy, perineorrhaphy, etc.—the clinical results have been most successful. I know that European operators, with a few brilliant exceptions, have done comparatively little with the operation. They have followed too closely the old Alexander-Adams technique, which I believe is faulty and difficult to carry out, and is the cause of the disfavor with which the procedure was so long regarded

The cases cited by Dr. Robinson are not representative cases, being mainly done by the older method and by foreign operators who are hardly the peers of our own men in plastic

gynecological surgery.

The author speaks of the very feeble power of the round ligaments as a support, and of their being absent in many cases. At the International Medical Congress held at Washington in 1888 I heard an accomplished (?) gynecologist say that the operation might do for women on this side of the Canadian line, but it would never do for the Canadians, because they had no round ligaments. He admitted that his observations had been confined to the dissecting and postmortem rooms. Although it is much more difficult to find these ligaments in the dead subject, owing to the shrinking of tissues. Poupart's ligament, etc., and the changing of the relation of the external landmarks, a careful dissection will never fail of reward if the directions of the new or direct method of operating are carefully followed out. But perhaps our Canadian friend made the mistake of looking for the

round ligaments at the external ring, where there are only a few frayed-out and separated terminal filaments. I have repeatedly experimented in the post-mortem room upon the round ligaments regarding their structural capacity, and have never found one that would not sustain a weight of three and one-half pounds; and many subjects have been women well advanced in years, who have passed the menopause, and some who had been dead several days, where there was partial decomposition of the abdominal viscera. A fair test of the ligaments shows that from five to ten pounds is their capacity of strength, which is sufficient, certainly, to hold the uterus forward in an anteverted position, fortified by abdominal pressure, which is converted by the operation from an

opposing to a sustaining force.

Dr. F. B. Robinson.—In regard to Dr. Watkins' remarks about the perineum, I said it supported the vaginal wall; the perineal body extends an inch and a half up. Concerning Emmet's operation, I think it is one of the first and best operations. I also claim that Emmet saves the columna of the vagina and works in the sulci. It is one of the most important operations we have in this country. Dr. Watkins said the size of the perineum is not important; that is what I have been arguing all the evening. Tait's operation restores the perineum to its natural condition and place. Tait's operation restores the perineum by resplitting the cicatrix. If the woman was operated on five minutes after the perineum was lacerated, you would do the same thing that you would do six months afterward.

In regard to uniting only the skin, that depends upon the operator. If he does not sink his scissors in deep, and his sutures below the exposed tissue, of course he won't unite them. I do not advocate Tait's operation for everything, but Tait has had operations that held the prolapsed uterus up ten years. In rectocele, for instance, if not very large, Tait's operation, if done deep enough, will hold it up just as well as elytrorrhaphy.

Dr. Hoag asked about the sulci. It takes a long time to introduce the sutures in Emmet's operation, but in this operation only a little while. I did the operation the other day in about thirteen minutes, and I can do it easily in ten minutes.

In regard to back cuts, I use them to get sufficient support when the laceration has extended far up into the rectum. Dr. Watkins suggested that sufficient support cannot be got by mere coaptation of the tissue. If you get your needle deep enough under the exposed tissue it is bound to produce a support.

Dr. Holmes' idea is good theoretically. But in dogs that

have been experimented upon I have found the silk suture months afterward, not absorbed at all, but encysted. I am glad the question was asked, "What is laceration!" For about five years I have spoken against numerous operations. I have seen dozens of operations that I thought were absolutely unnecessary. The patient who was brought before you to-night I would not operate upon; I do not think she has a laceration that needs operation. What I call a laceration is an injury sufficient to produce anatomical and physiological disturbances.

I agree with Dr. Jaggard that the function of the perineum is not as a direct support of the uterus, but that it is only an indirect one. One gentleman spoke of this operation resulting in cutaneous union; so it does, if the operation is done superficially, but if properly done it will never result in cutaneous union unless there is failure in healing. One must cut deep

and go down to the bottom of the cicatrix.

Dr. Newman misunderstood me when he thought I attacked Alexander's operation. I gave ten operations for prolapse and among them mentioned shortening of the round ligaments. The doctor says the round ligaments are not a support of the uterus to hold it up, but merely a stay, and that there cannot be prolapse with an anteverted uterus. I said that to-night. It is not likely you will have prolapse with the sacro-uterine ligaments all right. But this operation is not done before prolapse takes place; therefore the uterus is already prolapsed and is straight; now drawing the round ligaments forward only draws the uterus against the pubes. The Alexander-Adams operation is only an accessory operation.

I do not wish to be understood as being crazy on Tait's operation. I only savitis a splendid operation, one of the best for partial laceration of the perineum; it is an excellent operation in prolapse of the uterus, and, if done with extensive scissors-

cut flaps, will hold up the prolapsed uterus.

### TRANSACTIONS OF THE NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Meeting of February 25th, 1892. Robert A. Murray, M.D., in the Chair.

Dr. Egbert Grandin read a paper entitled

NOTE ON THE MANUAL RECTIFICATION OF OCCIPITO-POSTERIOR POSITIONS, 1

Dr. Malcolm McLean referred to a recent article which made it appear that uncorrected occipito-posterior position was unusual. The speaker thought this was a great mistake. He believed that a frequent cause of mischief occurring in obstetrical practice was due to the occiput descending in the posteror position to the point where it became necessary to apply forceps, and then, these being used in an unskilful manner, the injurious consequences followed. - Many socalled cases of disproportion between the mother's pelvis and the child's head were in reality cases simply of wrong position of the head. An illustrative case was that of a woman whom he had been engaged to attend, but could not go on account of sickness, and sent his assistant. She gave a history of having had a number of confinements, only one of which had terminated easily and normally; the others had demanded embryotomy, etc. He told his assistant that since one child had been born normally the pelvis must be sufficient, but that the probable trouble in the past had been an uncorrected occipito-posterior position, and he should examine for this and make manual correction early. This was done, and labor was completed without trouble within three hours. It was much safer to introduce the hand into the uterus, when made surgically clean, than to wait and extract with forceps.

Dr. S. Marx said he was unfortunate enough to have written the article to which Dr. McLean had referred. It was not based solely upon his own practice, but also upon that of another physician who had attended many women in confinement: Personally he had met with only two cases of

<sup>&</sup>lt;sup>1</sup> See original article, page 632.

persistent occipito-posterior position, which were delivered with forceps. As to the ease of accomplishing manual rotation before the head had engaged, he had tried it in one case, and, although he rotated it completely, he found it back in the old position when he examined again. He then delivered with the forceps, the instrument rotating easily with the head.

Dr. A. H. Buckmaster said he could heartily indorse the statements made in the paper. He believed that if the attempt were made early, and we were not afraid of putting the hand into the uterus, the head could be rotated successfully. While he had had experience in rotating the head and failing to keep it there, yet as a rule his attempts had been successful. Among general practitioners of considerable experience he had found less than thirty per cent of them make a correct early diagnosis of the position when being taught on the manikin.

Dr. Edgar approved of the management of these cases by

early manual rotation.

DR. Jarman had, with Dr. Coe, attempted rotation of the head from the occipito-posterior position in one case, and both of them failed and they had to perform podalic version. In two other cases the head could be rotated, but it would return to its former position in spite of Dr. Jarman's efforts to hold it. In those two cases also they had to do podalic version. According to this small experience rotation would not seem a simple matter.

Dr. Ralph Wald remarked upon the importance of rotating the body along with the head; in other words, rotate the child. Unfortunately in a large proportion of cases the doctor did not see them until the head had passed the brim

and it was too late to rotate manually.

Dr. A. F. Currier was called about a year ago to a case which had been worked over by two or three physicians and a midwife. He did not find the unwinding of the child, where there was a long cord around the body, as easy as Dr. McLean had represented, for, in spite of the fact that he performed rotation three times, before he could apply forceps the occiput was again back. He finally succeeded in doing podalic version and the mother made a good recovery. Had the child been living, the case pointed out a possible danger from manipulations during rotation, in that the placenta was found to have been detached.

Dr. Brooks H. Wells thought that a diagnosis of the occipito-posterior position could be made in a large proportion of cases by abdominal palpation. This was a more reliable means of making a diagnosis than the ordinary vaginal examination. As to the frequency of persistent posterior

position, he must agree with Dr. Marx that it was exceedingly rare when properly treated. Most cases came down in an oblique diameter, and with a little patience could be made to rotate. He had seen but four cases of direct occipitoposterior position, in all of which he succeeded in rotating the head. If the head were at the brim and could not be rotated, he would prefer version to any attempts with the

forceps.

THE CHAIRMAN said the paper fully expressed his own views. It was evident that when the head had engaged it was too late to rectify the position by the hand. Therefore, if we would spare instruments, the rotation must be recognized and performed early. The fact that the head in a given case would not engage should lead us to inquire into the cause, for there must be a cause, and if it were found in an occipito-posterior position, as likely it would be, we should rotate. If the case had gone on for hours, the waters had disappeared, the uterus contracted, often we would have to establish full anesthesia and perform version. There were other facts justifying the introduction of the hand; in this way one could determine the size of the head and the propriety of any given operation. The fingers were not sufficient. It was true the occipito-posterior position rarely persisted to the completion of delivery, but rotation took place at the outlet after laceration had taken place. If cases were properly recorded he did not doubt but what the occipitoposterior position would be found responsible for many deaths which had been reported simply as due to labor, puerperal fever, etc.

Dr. Grandin, in closing the discussion, said that, contrary to his expectation, the manual rectification of the occipitoposterior position had been generally indorsed by the speakers. His own experience seemed to differ from that of others, for he had seen many cases of persistent occipito-posterior position. Difficult cases, those of impacted head, were apt to be of this nature. The cases in which he advocated manual rectification were those in which the uterus made prolonged and ineffectual attempts to engage the head. Rather than apply high forceps he would perform podalic version. Where he had rotated he also rotated the body, and then the head remained anterior. If necessary in the operation, one could place the woman in Sims' or the genu-pectoral position.

### Stated Meeting, March 24th, 1892. Robert A. Murray, M.D., Chairman.

Dr. Francis Foerster read a paper entitled

CLINICAL AND MICROSCOPICAL ANALYSIS OF TWENTY-FIVE EXTIR-PATED OVARIES, WITH SPECIAL REFERENCE TO HEMATOMA.

Dr. H. J. Boldt said the history of the case of ovarian hematoma with rupture, causing severe symptoms, was nearly an exact repetition of a case which he had not long ago reported. He thought that everything which the author had stated could be corroborated by any one who would repeat his processes. From a clinical standpoint it was impossible to make a more exact diagnosis than to say that there evidently was present a chronic inflammatory condition. The microscope would have to reveal the special changes present. He inquired of the author how many of the twenty-five ovaries had been removed over three years ago, and received for a reply, "None, but thus far the results have been all that could have been expected." Dr. Boldt went on to say that a number of his cases had been operated on over three years ago; that in a certain per cent the result had been excellent; others had not done so well. He had sometimes thought that many of the symptoms were due to a chronic metritis which existed at the same time with the inflammation of the ovary; that removal of the adnexa had relieved both classes of symptoms.

Dr. A. P. Dudley thought that in nearly all of the cases of gyroma which had been regarded by the author as justifying removal of the ovaries, there was prolapsus of the ovaries. This prolapsus brought about a change in the blood circulation, to which he was disposed to attribute the symptoms more than to actual inflammation at the site of the gyroma. In other words, there was congestion rather than inflammation. This being true, the question arose, were we justified in extirpating the ovaries? Was it necessary? For his own part he believed that the majority of the patients would be relieved of their symptoms by lifting the prolapsed organs, and, if necessary, cutting out the corpus luteum which was undergoing the changes which led to gyroma, leaving the remaining portion of the organ in order that the patient might

not be entirely deprived of an important function.

Dr. Joseph E. Janvein would try to relieve the patient by raising the ovaries and by treatment not involving laparatomy. If this failed he would make exploratory puncture, and, if necessary, would remove the offending organs. He believed

<sup>&</sup>lt;sup>1</sup> See original article, page 577.

that many cases which had been operated upon and reported as ovarian and sometimes as tubal pregnancy, only a gross examination of the specimen having been made, were in reality cases of hematoma of the nature described in the paper.

Dr. Julia G. McNutt recalled a case which had been treated ineffectually by different means for some years. Later Dr. Dudley removed the ovaries. They were examined by Dr. Charles Heitzman, who pronounced the change endothe-

lioma.

Dr. G. M. Edebohls remarked that the microscopic work in all the cases bearing on this subject had, he believed, been done in a single laboratory. This was true, if he mistook not, in the evidence presented by Drs. Boldt, Jones, and Foerster. While all recognized Dr. Heitzman's ability, yet he thought it would be desirable to have these observations verified by other pathologists, who might employ other processes.

Dr. Locke said he had run upon one of these peculiar ovaries when studying under Dr. Freeborn; that, being unable to make anything out of it, he learned that Dr. Freeborn was still in doubt as to the significance of the changes present, although he had, after much study, begun, he believed, to formulate his views, which were more or less in accord with

those of Dr. Heitzman.

Dr. Jones agreed in the opinion expressed by Dr. Janvrin, that ruptured hematoma of the ovary was frequently mistaken for ectopic pregnancy. He also thought that the fluid which

escaped in these instances was highly virulent.

Dr. Boldt referred again to the question of making a diagnosis, and said that while we could not determine without a microscopical examination the presence of the changes mentioned in the paper, yet it was quite safe to infer their presence when the patient's symptoms persisted in spite of treatment, or when relief was only of short duration. Simply overcoming the prolapsus in such cases would not remove the

symptoms.

Dr. Dudley said that in as many as fourteen cases he had, on failing to relieve the symptoms otherwise, opened the abdomen, found a small cyst or hematoma of the ovary, tapped the ovary in a number of places, since which procedure the patients had remained free from pain. Some of his cases dated from 1887. One woman had become pregnant. None had subsequently suffered from menstrual pain. He believed, therefore, that the condition was one of passive congestion, and, unless more than half the ovary had been destroyed, the symptoms could be relieved by puncture and raising the organ.

THE CHAIRMAN thought the question of cause of the symptoms had not yet been made entirely clear. As yet the evidence had hardly been sufficient to prove that the relief had

always been due to removal of the ovaries, when those organs had been extirpated. Dr. Dudley had just produced some testimony to show that breaking up adhesions, etc., might give relief without extirpation, and it was well known that in some cases heretofore operated upon the removal had not been followed by freedom from pain. In those instances it had been supposed adhesions might have been at fault. It was desirable that further observations be made bearing upon

points which had been raised.

Dr. Foerster thought it was not safe to rely on removing a wedge-shaped piece of the ovary, for one knew not the condition of the part left. Replying to an interrogatory by Dr. Coe, whether gyroma was truly a malignant disease, he said that it was a progressive disease and therefore might be called malignant. That was his personal view. It was a progressive affair, and he would call everything malignant which was progressively destructive. The follicular wall degenerated into a gyroma, the gyroma into a hematoma, the hematoma into an endothelioma.

(To be continued.)

# TRANSACTIONS OF THE CINCINNATI OBSTETRICAL SOCIETY.

Meeting of February 18th, 1892.

The President, Dr. Byron Stanton, in the Chair.

Dr. Rufus B. Hall reported two cases and exhibited specimens of

PUS TUBES.

Case I.—Mrs. K., age 23, married five years; one child 4 years old. Three years ago she had an attack of pelvic inflammation following a vaginitis, and ever after that time had a painful point over the left ovarian region. She has had three other attacks of abdominal inflammation, the last commencing seven weeks before the operation was made, which kept her in bed most of the time. She had a temperature for the last weeks of her illness, indicating septic infection. I was asked to see her with her family attendant, Dr. H. W. Rover, January 19th, when an examination revealed that the uterus was fixed in the pelvis, with a firm, well-defined swelling the size of an orange to the left, which was

sensitive to pressure, with marked tenderness on the right side of the pelvis. The patient was growing worse under the best medical treatment. The operation was advised, and was made January 24th at my private hospital, and this large pus tube with the corresponding ovary removed. It is now twenty-five days since the operation, and the patient is able to leave the bed for a short time, and will soon be able to go home. She did not have an easy convalescence, and had some fever as late as the fourteenth day after the operation, which, however, I attributed to her pre-existing sepsis.

Case II.—Mrs. S., age 26 years, married eight years; three children, the youngest 2 years old. Has had some pelvic difficulty since the birth of the last child. In June, 1891, she had the first attack of abdominal inflammation, and has been confined to bed almost constantly since. I saw her first with Dr. Rover, February 10th, and the operation was made six days later at the Cincinnati Free Surgical Hospital for Women. When an examination was made it was found that the uterus was fixed and a well-defined mass upon either side of the pelvis. Both tubes were occluded and were firmly adherent. I have not opened the distended tubes, but will proceed to do so in your presence. As I lay them open you will observe that they both contain pus. The operation was made two days ago. It is too soon to say what the result will be, but I believe she will recover.

I did not like to operate while the patient was suffering from sepsis, nevertheless there were cases in which the surgeon felt that there was nothing else to be done. Even if it did not promise so much for the patients as the same operation would if they did not have sepsis, yet it promised all the hope they had of recovery, and many of the cases recovered after the operation was made. We must admit, however, that the chances are not so good as the cases in which there are no manifestations of sepsis before the operation. If the sepsis is due to a pus tube, and that can be removed without difficulty, they usually recover promptly and permanently.

Dr. A. W. Johnstone said that Howard Kelly and others had affirmed that pus of gonorrheal origin was not so virulent as that of septic origin. What was the experience of the

Society on this point?

Dr. Reed said he had operated on a case for Dr. Hawley, of College Corner—pelvic inflammation existing for four or five years. At times she had purulent discharge per vaginam. Nine weeks ago she was confined, since which time she had elevation of temperature. Vaginal examination showed tumefaction in the pelvis. He made an exploratory incision, and in getting into the peritoneal cavity he cut through adherent omentum, opening a pus pocket situated

between the omentum and abdominal walls. The tubes and ovaries were healthy, and he was in the act of closing the abdomen when he discovered the anterior wall of the uterus adherent to the bladder. In separating these organs he opened a cavity containing more than an ounce of pus. He washed out the pus by repeated flushings. It was clearly due to post-puerperal inflammation, whether following the last or some previous confinement is not known. This shows the way the peritoneum sometimes deals with pus. He had had similar experience in other cases. The safety of the patient depends on the pus being thoroughly washed out, not on its origin.

Dr. Hall said he saw no difference in the virulence of pus depending on its origin. He sometimes spills pus into the peritoneal cavity, only when it cannot be avoided, but does not usually have as much trouble with such cases as he had with the case first reported. He thought the trouble in

this case depended on previous sepsis.

Dr. Reed said that Dr. Hall had reported a case to the Cincinnati Medical Society very similar to one of his own, where the patient was suffering from constitutional sepsis when operated upon. Neither case rallied from the shock. He thought such patients should receive constitutional treatment and be gotten into the best condition possible before operation. Some such cases recover, but they were few indeed.

Dr. Johnstone said that the usual preparation for laparatomy, including free saline purgatives, was the best possible treatment for these cases. But this treatment must not be persisted in too long. Three or four years ago he had a patient under his care who had recurring attacks of fever. He was at first inclined to regard this as malarial. The last attack lasted six weeks. He then examined the pelvic organs and found the ovaries enlarged, tender, and prolapsed. He advised a laparatomy, and performed it with the patient's temperature at 103°. Although he found no pus in the ovaries or elsewhere, the temperature commenced to decline immediately and was normal in three days. He thought the operation saved her life.

REPORT OF A CASE OF INDUCED PREMATURE LABOR FOLLOWED BY DEATH,

by Gustav Zinke, M.D.

About one month ago he induced labor in a woman, mother of four living children. She had been operated upon two years ago for laceration of the cervix and perineum. He first saw her during the sixth month of gestation, at which time

her abdomen was as large as it should be at full term. Her urine was loaded with albumin and rather scant in quantity. There was then edema of both legs and feet. Physical examination revealed an excessively distended uterus due to hydramnios; position of the child could not be determined. During the seventh month anasarca of the entire lower extremities and continued dyspnea were very marked, and daily increased until the life of the woman was threatened. It also became evident that, if the uterus was not relieved of its contents, rupture of the organ might occur at any moment. She was admitted to the German Hospital, where he introduced a tupelo tent, from which he secured sufficient dilatation to permit the introduction of his finger. He then gradually dilated the cervix and separated the membranes, for four days in succession, with his finger. Labor not coming on, he introduced the catheter between the anterior wall of the uterus and the membranes. Painful contraction then supervened, but no progress being made after the os was fully dilated, he ruptured the membranes and found a vertex presentation of what proved to be a twin pregnancy. The pains continued, but did not effect an advance in the delivery of the presenting child, in consequence of which the forceps was applied and the living child extracted. He then ruptured the membranes of the second child and delivered it alive, manually, breech presenting. The mother's condition after labor was quite satisfactory. She recovered nicely from the operation and made a very favorable progress for seven days, when the lochia had become colorless, the uterus perfectly contracted, and the patient herself anxious to go home. There had been no elevation of temperature at any time, nor tenderness or pain in any part of her body; her bowels had acted daily for the past five days and her appetite was good. On the morning of the eighth day she was seized by a severe pain in the left shoulder joint, extending down the arm, which could only be relieved by the subcutaneous use of morphia. The pain was so intense as to deprive her, for the time being, of the use of that member. Three days later the left forearm showed a phlegmonous swelling on its extensor surface. The pain in the left arm, which had been unattended by swelling and tenderness to the touch, subsided, but with the appearance of the swelling in the right forearm the temperature went up to 105°. Within forty-eight hours the inflammation in the left forearm had completely disappeared under the application of flaxseed poultices. The temperature was kept down under the administration of antipyrine. For two days there were indications of improvement, which gave hope for a final recovery, when she was suddenly taken ill with severe pain in the region of the liver. With the occurrence

of pain in this region the abdomen became tympanitic, the temperature went up to 105°, the tongue became dry and sordid, and a low, muttering delirium closed the sad scene

with the death of the patient.

To make the history of the case complete, the doctor stated that soon after the introduction of the catheter into the uterus for the purpose of bringing on labor, he was informed of the prevalence of erysipelas in the house, and, to his still greater astonishment, was told that it had been within the building for a week and that the patient had occupied the same room for one day. There were altogether four or five cases of erysipelas in the house, none very severe, all recovering. From the day of admission the doctor's patient received a bath daily; the parturient tract was irrigated with 1:4,000 bichloride solution twice a day. When made aware of the presence of erysipelas, the patient was taken to a distant part of the house, into a room previously thoroughly cleaned and ventilated, containing a new bedstead, mattress covered with sterilized bedclothes. The patient herself, before she was admitted to this room, received another bath and complete change of clothes. After no untoward symptom had made its appearance at the end of the seventh day after her delivery, he began to congratulate himself on the fortunate escape from complications that might be produced from erysipelas. The local discharge at this time had become absolutely colorless, and was normal in character throughout her confinement. He had been not a little annoyed by the final result, and had been in a serious quandary as to how much of the cause of his patient's death should be attributed to erysipelatous poison and the previously existing albuminuria and general debili-

Dr. Palmer said the cause of death in this case is somewhat obscure, but it was probably due to sepsis, and the cause of sepsis was seemingly due to the presence of crysipelas in the hospital. The only point of criticism he had to make concerning the management of Dr. Zinke's case was the manner in which the premature labor was provoked. The induction of premature labor was clearly justifiable and judicious, and had the method which was last employed been utilized at first it seems probable to him that all cause of local, then general sepsis might have been avoided. The repeated examinations with the finger, then the tent to induce dilatation, were always objectionable. In a considerable experience in the induction of premature labor, he had invariably used the bougie, far preferable because less septic than the male catheter. He had never known it fail to produce uterine contractions in less than twelve hours. Once a medium-sized one

failed to produce sufficient contractions, and he deemed it prudent to withdraw it and insert a larger bougie in another place. The bougie may be said to be a safe, prompt, thoroughly efficient provocative of uterine contractions, stimulating normal uterine action in the first stage of labor. The

finger and tents he did not utilize.

Dr. C. A. L. Reed said he thought death in this case was to be attributed to the crysipelas in the house. He had lost four cases himself in one week; the first case he attended was nursed by a woman who had just had charge of a case of crysipelas. Therapy is valueless in these cases. He knew Dr. Zinke would not use a tent without antiseptic precautions, nor would he use a finger surgically unclean. Death was due to the infected house, not to the method of inducing labor.

Dr. Giles S. Mitchell said death was doubtless due to

pyemia from sepsis in the hospital.

In many cases of albuminuria during pregnancy it was not necessary to induce labor. The alarming symptoms will frequently disappear under the judicious use of iron and digitalis. Severe cases of sepsis were hopeless; treatment was of no avail.

In closing the discussion Dr. Zinke said that his patient was poor but very respectable, and he had taken a deep interest in her case. It was that she might receive proper nursing and be in more hygienic quarters that he advised her removal to the hospital. While in the institution she received a bath daily and douche containing bichloride. His hands and the catheter were thoroughly sterilized. When, after the introduction of the catheter, he learned of the presence of erysipelas in the house, he had her removed to a clean room, placed in a clean bed, and continued his antisepsis with renewed vigor. He had used the tent because he had found it impossible to introduce his finger, and still regarded the use of the tent advisable under the circumstances.

# TRANSACTIONS OF THE NEW YORK OBSTETRICAL SOCIETY.

Stated Meeting, February 16th, 1892.

The President, CLEMENT CLEVELAND, M.D., in the Chair.

RUPTURE OF THE UTERUS; HYSTERECTOMY; DEATH.

Dr. H. C. Coe presented specimens from a case of rupture of the uterus, accompanied by the following history: On January 21st he was requested by Dr. Lusk to represent him

in a consultation. On his arrival he found that there had been a rupture of the uterus which had occurred in a multipara weighing over three hundred pounds. Labor had begun at 5 A.M., and until 1 P.M. everything proceeded naturally. At this time the os was well dilated. The head had engaged and descent had begun. During a powerful uterine contraction she suddenly experienced sharp pain in the abdomen. The presenting part receded quickly and could then be felt plainly in the left flank. There had been no operative procedures up to this time. At the time of Dr. Coe's arrival, which was unfortunately not until seven and a half hours after the accident occurred, he found the patient in fair condition, with a pulse of 120, the abdomen distended and fluctuating. She had been bleeding pretty freely, but had not lost an excessive amount of blood. Nothing could be learned from a vaginal examination, as the uterus had been drawn up so far that the cervix was beyond his reach. Laparatomy was performed within twenty minutes after his arrival, by very poor lamplight and with the help of unskilled assistance. On opening the abdominal cavity there was a gush of fluid blood. The fetus lay entirely outside of the uterus, with the feet presenting. There was active hemorrhage, but owing to the poor light the operator was unable to determine its exact origin. The cervix and broad ligament were constricted with stout cord, but this, as well as the écraseur wire, broke. As the patient was sinking rapidly, he decided to remove the entire uterus. The child, that was delivered, weighed a little over fifteen There was a large tear in the posterior vaginal wall and the lower segment of the uterus. During the manipulation of the stump the écraseur slipped, causing hemorrhage, which was promptly controlled by forceps and ligatures. The bladder was carefully dissected away in order to avoid injury to the uterus. Fearing that there might have been some previous septic infection of the uterus, he thought best to secure the stump in the lower angle of the wound, and this was easily done without making undue contraction. The abdominal cavity was then thoroughly irrigated with hot water, and gauze drainage established through the vagina and the abdominal wound. There was not much bleeding during the operation and the patient rallied promptly, but on the afternoon of the following day she died suddenly from heart failure. The urine had been secreted freely during the operation, showing that the ureters had not been included in the ligatures.

Dr. Coe said he considered now that he had made an error in judgment in removing the entire uterus. Under similar circumstances he thought it would have been better to simply irrigate the cavity and tampon through into the vagina. This

would have shortened the operation and avoided shock. He had been led into this error in the emergency by his inability to detect quickly the exact location of the tear. Another point of interest was as to the etiology of the rupture. The woman had borne four children before this, one of which was said to have weighed fifteen pounds. In the present instance the labor had been normal, and there had been no surgical interference or undue manipulation up to the time of the accident. It was rather difficult to understand how the head eould have been low down in the vagina and yet, after the rupture, the child be found in the position which it occupied at the time of the operation, unless it might be that the tear began in the cervix and involved almost the entire posterior wall, under which circumstance the uterus might have been drawn upward and tilted forward in such a way that the child was forced up into the abdominal cavity. This was his fifth operation for rupture of the uterus, and yet he had only succeeded in saving the life of one of these cases. The operation was always a desperate one, and even slight delay added greatly to the mortality.

Dr. Florian Krue said that he thought the operator would have found his work greatly simplified had he been able to make use of the Trendelenburg posture; and in this connection he might mention that he had shown to the Society a short time ago the model of a portable frame which he had devised and which could be carried with the rest of the operator's armamentarium. He thought if the operator had been provided with this apparatus he would have been able to detect the rent in the uterus quite easily and quickly. After operating with patients in the Trendelenburg posture exclusively during the last three years, he had been greatly surprised a few days since, on going back to the old method, to find how much more difficult it was to operate with a patient in a horizontal position.

Dr. E. H. Grandin said that he would like to hear more about whether the proper method of treating these cases was really by abdominal section or hysterectomy. As Dr. Coe had well said, the proper time for performing a hysterectomy was immediately upon recognizing the existence of rupture; but it required considerable nerve for one to advocate an operation at a time when the patient is profoundly shocked and when the operation is almost uniformly fatal. As a result of his experience in two cases, and some research into the literature of the subject, he had come to the conclusion that it was better to tampon by the vagina than to resort to hysterectomy, provided we could eliminate a septic condition of the uterus, unless the rent involved the lateral vessels. In such cases it is

highly probable that the hemorrhage would occur into the layers of the broad ligament and not into the peritoneal cavity; and if so, the hemorrhage could not amount to much if the uterus were thoroughly tamponed. Great care should be exercised not to nip a loop of the intestine. A few cases had been recorded, one notable case in Boston, where tampons had succeeded in carrying the patient on to recovery.

Another point brought out by the case was the almost uniformly obscure etiology in cases of rupture of the uterus. The accident most commonly occurs in multiparæ, and he thought it not improbable that the rent might begin in the angle of the deeply lacerated cervix and then extend in a circular direction, or else it might extend upward in the layers of the broad ligament. In such cases a hematoma would be encountered, and this was a condition in which the patient was likely to do best when all operative interference was avoided.

Dr. Coe, in closing the discussion, said that he agreed fully with Dr. Grandin as to the necessity of being more conservative in these cases. There was exactly the same condition to meet as there was in a rupture of ectopic gestation, viz., active hemorrhage. Peritonitis develops very rapidly in these cases, so that in two instances where he had operated within twelve hours after the accident he had found quite an extensive peritonitis. If operation is delayed until reaction sets in it is too late to operate. He did not think there was any question about the propriety of performing laparatomy when the child was in the abdominal cavity, but if the fetus and placenta had been delivered he would content himself with drainage, unless the rupture was extensive and accompanied by free hemorrhage. A large majority of such cases have been subject to considerable interference, both manual and instrumental, and hence there was imminent risk of sepsis if such a uterus be left behind, and even when these conditions are not present the existence of amniotic fluid in the abdomen renders the prospect anything but hopeful.

Dr. G. M. Edebohls presented

HEMATOMA OF THE OVARY DIAGNOSTICATED BY EXPLORATORY PUNCTURE.

The patient was a woman, 27 years of age, who had been married eight years. Menstruation began at the age of 13 years. The flow was of the four-weekly type, but lasted only from one to one and a half days. Pain always preceded the flow. The family history was rather poor, the patient's father having died insane and the remainder of the family being distinctly neurotic. From the beginning of menstrua-

tion she had suffered from attacks of hystero-epilepsy, which were most marked at the menstrual periods, but which also occurred at other times. She had had only one child, which was born at the seventh month. The patient came under his care about one week ago, and the examination at that time showed the uterus to be normal with the exception of a slight anteflexion. Both tubes were also normal. The right ovary was of normal size, but fixed by some adhesions. ovary was enlarged to the size and shape of a hen's egg. This tumor was movable in various directions to the extent of about one and one-half inches. It was well rounded, somewhat dense, but not fluctuating. On performing abdominal exploratory puncture, guided by combined rectal and vaginal touch, in accordance with the method which he had previously described, he was able to withdraw from this ovary some bloody fluid. He then made a diagnosis of hematoma of this ovary. Laparatomy was performed and adhesions around the right ovary loosened and the ovary dropped back. The left ovary was removed and was now presented for inspection. In cutting it open it was found that the entire cavity was filled with a blood clot and that some bloody fluid escaped. The surface of the ovary was studded over with small cysts, but their exact nature had not yet been determined.

Dr. Krug said he wished to call particular attention to the appearance of the bloody fluid which had escaped on section of the ovary. He had never seen blood of this character in any case where it had been shut off from the general circulation for any length of time. It looked very much like fresh blood. Moreover, the fluid which escaped was not entirely blood. There was a small blood clot, and the remainder was a thin fluid resembling that found in cases of cystic degeneration with hemorrhage into the cyst. Again, there is absolutely no history of trauma, and hence it became very difficult to explain the cause of such a hematoma. If this hematoma were the cause of the patient's discomfort, the blood clot should look older than it did in this specimen. He thought it quite possible that the puncture was responsible for the formation of this bloody fluid.

Dr. Grandin said that in these cases there was always considerable doubt about the justifiability of an operation of this kind, and he would therefore like to ask if the existence of this bloody fluid was the indication which had led Dr. Edebohls to perform abdominal section. He thought the point

made by Dr. Krug very well taken.

Dr. W. G. Wylie had had one such case, in which the bloody effusion had evidently been caused by the electrical treatment of a uterine fibroid. In this case there was the usual characteristic pigmented material which we find when these effusions have existed for a long time. The blood in the specimen just presented certainly looked very fresh and

did not show any such pigmentation.

Dr. Edebohls, in closing, said that he wished to remind them that blood, after it has been shed, separates into two parts, serum and blood clot, and that is the condition in the specimen he had presented. At the time the case came under observation there was a tumor about the size of a hen's egg. About five days before the operation this was punctured in the manner already described and about two drachms of fluid serum withdrawn. This was accompanied by a corresponding diminution in the size of the tumor, and the latter remained this size until its removal by operation. If the effusion were the result of his puncture there would have been a tumor larger than before the puncture and steadily increasing in size, whereas in his case the reverse was present. It was also to be noticed that the entire ovarian substance had disappeared.

In regard to the indication for operation, he did not consider the mere withdrawal of bloody serum from a small ovarian tumor of this size—only about three inches in its longest diameter—a sufficient indication for the performance of laparatomy. In fact, he would hope that after withdrawing some of the fluid from such a tumor it might disappear, just as bloody effusions do under such circumstances in other parts of the body after absorption has been stimulated by withdrawal of the fluid. In the case under discussion the special indications were, first, a history of hystero-epilepsy occurring at each menstrual epoch, and, secondly, the enlarged

tumor.

AGUTE INTESTINAL OBSTRUCTION FROM AN ENTEROLITH ASSO-CLATED WITH ABDOMINAL CARCINOMA.

ovary. He had never removed the ovaries and tubes for the cure of a nervous condition, nor would he have done so in this case had the epilepsy not been complicated by an ovarian

Dr. Malcolm McLean reported the following case as an instance of the difficulties of diagnosis in cases of intestinal obstruction:

Mrs. J., 48 years of age, married, gave a history of troublesome and chronic diarrhea during last July and August, which was only relieved on the approach of cooler weather. She continued to enjoy her usual health after this up to January 1st, 1892, when she was seized with nausea, vomiting, and colicky pains in the abdomen. For the next three days there was good movement from the bowels, but the

nausea and pains in the bowels became more severe, and on January 5th fecal vomiting set in. Attempts were made to open the bowels by the use of high enemata, and on January 7th a careful examination was made, with the following result: The patient was much emaciated, decidedly cachectic in appearance, and through the abdominal parietes the intestines could be distinctly seen squirming and moving back and forth. A mass as large as an apple could be felt deep down in the left flank, hard and immovable. Her pulse was of bad quality, beating 130 to the minute, temperature 101°. Laparatomy was advised and performed. The abdominal incision was two and one-half inches in length, and on opening the cavity a loop of greatly distended intestine, several feet in length, presented itself. It was deeply congested and of a purplish-red color. The mass was found to be a hard growth, apparently situated behind the peritoneum and not occluding the bowel. The diseased gut was found too deep down in the pelvis to be firmly adherent to the promontory of the sacrum, at which point a very hard mass was found, about as large as a small potato, and involving the lumen of the gut. The intestine was brought up through the wound, and was then found to be enormously thickened and very much inflamed, but not yet gangrenous. On opening the gut he came down upon a large and very dense calcareous mass weighing two and one-half ounces and measuring two and one-half inches in its longest diameter. It could not be crushed by ordinary means, so, in order to shorten the operation, it was delivered through the opening in the intestine in-The wound in the gut was closed with great care. The woman seemed to do well immediately after the operation, and the vomiting ceased, but she failed steadily and died within twenty-four hours.

The case was interesting as showing how careful one must be in making a diagnosis of obstruction of the bowel, for in this case there was every reason to believe that the mass in the left side of the abdomen was the cause of the obstruction, whereas in fact the true cause was this large enterolith in the lumen of the intestine. The acute obstruction of the bowel took place when the enterolith descended to that portion of the bowel which was adherent in the pelvis, or else it descended with the intestine to the point where the latter became adherent, and then the acute symptoms supervened. He believed that the emaciation and death of the patient were chiefly due to the cancerous deposit on the left side of the abdomen. The specimen was unusual from the fact that it did not seem to be composed of cholesterin but of calcare-

ous matter.

Dr. Polk presented a specimen from a case of

PYO-SALPINX AND ABSCESS OF THE OVARY MISTAKEN FOR UTERINE FIBROIDS; EXTENSIVE ATTACHMENTS NECESSITATING HYSTERECTOMY.

The specimen was common enough in itself, yet had such attachments as compelled him to resort to unusual operative procedure. The case was sent to him as one of fibroma, and on examining the patient under ether he concurred in this diagnosis, partly on account of the history, and partly because the examination showed the existence of a nodular, movable mass about the size of a five months' pregnant uterus, and because the sound passed into the centre of this mass to the depth of four or five inches and the mass moved in conjunction with the sound. On performing laparatomy a smooth surface, covered with a normal peritoneum, presented. On the posterior surface of the tumor, near its centre, was an attachment to the sigmoid flexure of the bowel. The adhesion on the right side was such that he had not examined the exact relation of the round ligament and ovarian vessels. There was no evidence of recent inflammation. He inserted a corkserew into the mass and was surprised to find pus oozing out. He still supposed that it was a fibro-cystic tumor in which suppuration had occurred, although there had been no constitutional disturbance. Further investigation showed nothing more than salpingitis with a suppurating ovary, the one on the left side being rather larger than usual. He then attempted to separate the ovaries from the uterus, and for this purpose cut through the peritoneum, enucleated the whole mass on the left side. He then found the relations of the ovaries and uterus such that a very extensive dissection was necessary, and after this was done he thought it safer to remove the uterus.

He reported the ease on account of the unusual nature of the attachment, the hardness of the mass, and its general peculiar physical features, which led more than one physician to

consider it a fibroid attachment.

Dr. Edebohls asked if the omentum was adherent to the tumor, and on receiving an affirmative reply said that his reason for asking this question was that it not infrequently happened that when the omentum became adherent to the pelvic viscera, and became hypertrophied as a result of the increased nutritive supply derived from the adhesions, it assumed a peculiar hardness, simulating fibromata. shown such specimens to the Society before.

Dr. H. T. Hanks spoke of the uncertainty of diagnosis, particularly in cases of long standing, as the existence of the exudation masked the real condition and led almost every

surgeon to think at once of fibroid.

Dr. W. G. Wylie had a somewhat similar case. Just one year ago a woman came to him with distended abdomen and history of long-standing pelvic inflammation. Examination showed a tumor similar to that described by Dr. Polk, except that it was more fixed and accompanied by some ascites. He opened the abdomen and found bloody fluid and cysts, and several who saw the case agreed in the diagnosis of cystic sarcoma. Drainage was introduced, and she left the hospital in pretty good condition, but it was expected that the growth would soon recur. She returned, however, one month ago in fairly good health, except some abdominal distention. He determined to open the abdomen to find out what was the condition at present. On doing this he found some bloody fluid and a eyst, about the same as had been seen at the first operation. The tubes and ovaries presented just the condition seen in Dr. Polk's specimen, and he removed an almost identical mass; but there was so much bleeding that he did not complete the operation, but simply inserted drainage. The patient is now doing well, but he proposes later on to open the abdomen again and see if he can complete the operation without sacrificing the uterns. He felt certain that if he had proceeded in the last operation it would have been necessary to remove the uterus, and the case might possibly have proved fatal.

Dr. Polk, in closing the discussion, said that his case illustrated beautifully the advantages of the open method of treatment. The patient's pelvis is packed about two-thirds full with gauze, and during the three days since this operation was performed the temperature has not been over 106°.

Dr. W. G. Wylie reported a case of

SELF-INDUCED ABORTION BY A GLASS ROD; SUBSEQUENT REMOVAL OF THE ROD FROM THE ABDOMINAL CAVITY BY LAPARATOMY.

The patient was 25 years of age. Menstruation began at the age of 14 and had continued regularly every twenty-eight days, the flow lasting three or four days and being unaccompanied by pain. The previous health had been good. She became pregnant after menstruating on the 18th of October, 1891, and on November 29th, after taking a carbolized vaginal douche, she endeavored to insert into the os uteri a glass rod about the size of a lead pencil and six and a half inches in length. She had made several efforts in this direction before. This time the rod went in easily and then slipped beyond her reach. It caused some pain and there was a slight

bloody flow, but these soon ceased. She walked around during the day without discomfort, but that night had some pain on the right side, but no bleeding. She went to her work as a typewriter on November 30th. A bloody flow began in the afternoon, but soon stopped. On December 1st a physician examined her, but could not find any glass rod. On January 9th, 1892, a physician was summoned on account of hemorrhage, which was controlled by tampon. On the following day he removed the fetus and membranes. She remained in bed ten days and suffered somewhat from pain in the right side. After a time the bloody discharge became quite foul. and when the patient finally came under the speaker's care it was necessary to put her to bed and use vaginal douches. until the temperature had fallen and the pain diminished, before satisfactory examination was deemed advisable. She was then etherized, and in the left ovarian region a tumor was found about the size of a hen's egg. On opening the abdomen he found some adhesions about the uterus, and the left ovary large, inflamed, and covered by adhesions. This ovary was removed, together with the tube. The same condition was present on the right side, but was not so extensive, so that the adhesions were simply loosened up and the left ovary dropped back. Feeling around the abdomen, he then discovered the glass rod in the neighborhood of the left kidney, but he was unable to find the point of perforation. The abdomen was washed out with hot water and drainage tube inserted. The patient is now up and around.

The President presented

#### A BOX FOR CARRYING STERILIZED GAUZE

which had been devised by Dr. Le Roy Broun. It is made of block tin, and is six inches long, three and a half inches wide, and three and a half by four inches deep. The top fits snugly. At each end a slot is cut sufficiently wide to allow gauze of two and a half inches width to pass through easily. Inside of this box is placed a smaller block-tin frame arranged so as to support two glass rods on which the iodoform rods revolve.

The usual five-yard roll of ten-per-cent iodoform gauze is bought and torn into two-and-a-half-inch widths. These are rolled over glass rods a little over three inches long, each rod having thus fifteen yards rolled upon it. This is done with great care as to cleanliness. A number of these rolls being prepared, they are covered with gutta-percha tissue and put away for future use in a closed jar. When needed, two are placed in the metal box as short a time as possible before an operation, secured well by the top, and sterilized for one hour in an Arnold sterilizer. The box is then at once

wrapped in a few towels which were sterilized at the same time, taken to the house of operation, and not disturbed until the operator calls for the gauze. The towels are then removed and a free end started through one of the slots. The box carrying thirty yards furnishes all that is needed. The advantage that the box is thought to possess is that when once sterilized the gauze remains practically in the sterilized atmosphere until needed. Again, no hands touch it except those of the operator. If, before sterilizing, it is seen that the free ends of each roll are not lying loose on the bottom of the box, the gauze will in no way be changed by the heat. If this is not done, and the ends are allowed to dangle upon the bottom, this and a part of the roll will be changed to the usual blue by the decomposition of the iodoform.

Dr. Hanks said that he wished to take this opportunity to call attention to

#### LYSOL,

an antiseptic which he had been using recently as a substitute for carbolic acid and bichloride of mercury. It was readily miscible with water and was used in a one per-cent solution for cleansing the hands and in a one-half-per-cent solution for vaginal injections. He considered it cheaper, as well as more efficacions, than carbolic acid, while it possessed the advantages of not being corrosive and irritating.

PROBABLE SUPERFETATION; PROTRACTED GESTATION; DIFFICULT LABOR; FORCEPS DELIVERY; PARTIAL INVERSION OF THE UTERUS; SEPTICEMIA; ERYSIPELAS.

Dr. J. R. Nilsen read a paper with the above title. The history of the case is as follows: Mrs. M., 36 years of age, married eleven years, gave birth to her first child on October 8th, 1891. The child weighed fourteen pounds. Labor lasted for twenty hours, and then, as there was complete inertia of the uterus, the delivery was accomplished with the forceps. On the third day the temperature rose, the lochia became offensive, and the patient complained of headache and some abdominal tenderness. He then first saw the case in consultation. He learned that during the past year the patient had had a foul-smelling leucorrheal discharge. On entering the room he noticed a peculiar musty odor about it, but not more pronounced than he had often noticed in other cases. The patient was an intelligent woman, presenting nothing abnormal in her general appearance except a slight flush in her cheeks. The pulse was 122, respiration 125, and temperature 104.5°. She had been receiving carbolized vaginal douches twice daily. An examination at this time showed the abdomen to be somewhat distended and quite sensitive over the hypogastrium. The skin was moist, the vulva and vagina were considerably lacerated, and, although unhealthy-looking, there was no evidence of diphtheria of these parts. The whole vagina felt very flabby. In the upper part of the vagina was a round tumor the size of a small orange, soft and elastic, and presenting an uneven surface. The cervix was somewhat swollen and was very deeply lacerated on the left side. Passing through the os, the examining finger detected something which felt like placental tissue, but the examination was much interfered with by the flatulent distention of the bowels. On withdrawing the finger there was an intensely putrid odor. After giving a vaginal injection and an enema the abdominal walls became more relaxed, and he was able by external examination to make out a cupshaped depression of the fundus of the uterus, indicating partial inversion of this organ. The uterus was also sharply anteflexed. On account of complete inertia the inversion of the uterus was readily reduced. On introducing the whole hand into the vagina shreds of tissue two or three inches long could be felt, and on detaching the mass he was able to remove about a teacupful of débris, but no fetal parts could be found. The attending physician had assured him that he had carefully examined the placenta at the time of delivery and had found that it had come away intact. The uterus was thoroughly washed out, and after being compressed in the bands it contracted fairly well for a short time, but there were sudden and frequent relaxations, requiring the constant. watchful presence of an attendant. At such times the pulse would become more rapid, the temperature would rise, and the patient become restless. Hot uterine injections were given several times a day and caused momentary retraction of the uterus. One hour after washing out the uterus the tenderness about the uterus disappeared, the pulse was 120, and the temperature 102.2°. There were frequent symptoms of sudden sinking and faintness, demanding the most vigorous measures; there was also occasional vomiting; but nourishment was satisfactory and sleep was fairly good. It seemed very difficult to keep down the fetor of the discharge. There was more or less profuse perspiration, the brain symptoms were absent, and the pulse, respiration, and temperature were in harmony. On the sixth day there was fair involution, but uterine contraction was not vigorous. At this time she began to complain of slight pain in the left elbow joint, unaccompanied by redness or swelling. The pain increased steadily up to the fifteenth day, the temperature keeping most of the time about 100°, and then for the first time there was slight redness of the part.

On October 16th, at 5 P.M., temperature was 104°; at 6 P.M.

she had a severe chill, immediately followed by a temperature of 106.8° in the axilla. She was then given a cold intranterine douche, which gave her much comfort. At 9:45 p.m. she was sweating profusely; pulse 148, temperature 102.2°. October 17th the temperature rose again. From 9:50 to 10:45 p.m. she had extremely severe rigors, but without any sensation of cold. At 11 p.m. the temperature was 107° in the axilla and was accompanied by profuse sweating. October 18th, 5:30 a.m., rigors returned and lasted for fifteen minutes, and at 6 a.m. the temperature reached 105.5°. Quinine was given in large doses, and for a time the prospect of recovery seemed good. At 7 a.m. erysipelas appeared on the whole arm from the shoulder to the wrist, with a temperature of 104°, and a large copper-colored patch over the left hip and thigh. October 19th the patient died of exhaus-

tion. Temperature just before death was 106°.

During her whole illness the urine had been normal, except on one day when it was diminished in quantity and contained a trace of albumin. She had to be catheterized up to October 17th, after that passed it of her own accord. Two months after this patient's death a sister, who was attended by the same physician, died in childbed fever. During the interval he had delivered four other women without any complications, and since the last death he has attended three other confinements without a mishap. The patient stated that she had had sexual intercourse several times during the four months preceding the confinement. There had been a slight "show" during pregnancy, but nothing during the last four months. Pressure from the first ovum must have interfered with the development of the new ovum through the uterine wall, unless there was sufficient amniotic fluid present to protect it from injury. He admitted that the evidence in favor of superfetation was not very strong, but, in view of the meagre literature of this subject, he thought it worth their attention.

He could not but believe the patient's statement that confinement occurred twenty days after the full term of pregnancy, as she had calculated from a single sexual intercourse which had occurred just three days before the expected menstrual period. On this basis of calculation she had been able to predict the time of quickening within a very few days of its actual occurrence. The child showed a corresponding state

of development.

There was undoubtedly septicemia present. The erratic changes in the symptoms and the rather slow progress of the case seemed to confirm Virchow's theory that septic material is conveyed along lymphatics to the glands, where it is delayed by the local changes produced there and may either expend itself or else multiply and receive reinforcement from the

primary source of infection. Where there is a large amount of poison introduced there may be a rapid passage of the infectious material through these channels, and, reaching the blood canal by way of the thoracic duct, it may overwhelm the system. From a study of the literature on the subject he was led to believe that the various forms of puerperal infection are all due to the action of one and the same agent, modi-

fied in various ways.

Speaking of the relation of puerperal erysipelas to puerperal septicemia, the author said that a writer last year in the Dublin *Medical Journal* stated that it was probable that cellular or phlegmonous erysipelas, and diseases affecting the cellular tissue in which microcoeci are present, are really a variety of puerperal fever, while the ordinary form of cutaneous erysipelas which is caused by the specific microbe produces in puerperal women erysipelas and nothing else. Last year Jordan, of Heidelberg, reported a case in which some fragments of skin taken from a large erysipelatous zone furnished, when cultivated, a different germ from the erysipelas eoccus.

Dr. Nilsen believed auto-infection possible without the agency of specific germs. It was not uncommon to find in puerperal women a slight odor to the lochial discharge. This showed decomposition, nothing else, and such decomposition does not always lead to the infection of the patient. He cited a number of authorities in support of the theory

of auto-infection.

Referring to the treatment of these cases, he said that it. was his practice after the delivery of the placenta, if it were found to be imperfect, to remove the pieces left in the uterus with his fingers, watching the case carefully for development of foul-smelling discharge. If this occurred he used the blunt curette, placental forceps, sharp curette, or the finger, as under these circumstances intra-uterine injections were not sufficient. In using these injections he was accustomed to guide the introduction of the tube by means of the vaginal speculum, preferably a trivalve, which can readily be slipped off after the introduction of the irrigating tube. The irrigating solutions he employed were either a weak solution of creolin or pure water. Pure water, or water containing a little salt, is efficacious, as the idea of irrigation is chiefly to wash away the débris. The fluid should be well emptied out of the vagina after the irrigation.

Dr. Grandin said that although we must admit that superfetation is possible, it was such an extremely rare occurrence that he was inclined to be sceptical as to the present case being one of that nature. He thought it was rather a case of twins, where the stronger fetus developed at the expense of

the weaker. As regards the question of protracted gestation, he thought the profession should speak strongly in justice of the legal limit of three hundred days for pregnancy, which obtains in some countries at the present day. We had all seen cases where gestation had been protracted even to the three hundredth day, and a plausible explanation of this was to be found in the occurrence of conception just prior to the last menstrual period. He had seen three or four cases in which he thought the gestation had gone on beyond the three-hundred day limit, and Simpson had reported undoubted cases protracted to the three hundred and sixteenth and three hundred and twentieth days. He thought the case under discussion was particularly interesting as an instance of what he must in all charity term "bad midwifery," because at the present time the attending physician could not be considered to have done his duty in a case of confinement until he had satisfied himself, in a case of delivery at full term, that there was absolutely nothing left within the uterus. He would call the case presented one of septic pyemia. The successive rigors, the erysipelatous blush, high temperature, swelling elbow, all pointed to the case as being one of septic pyennia, all, happily, now of quite rare occurrence. The source of infection was unquestionably the putrid remnant in the uterus. He did not care about the kind of germs; the starting point was unquestionably in this putrefying mass, and to that extent it might possibly be called an instance of auto-infection.

He heartily indorsed the general rules of treatment laid down by the author, and added that he did not at present use the curette as much as formerly, preferring the finger or hand in the uterus, as in this way he could better satisfy himself

that the uterus was emptied.

Dr. Hanks recalled a case which had been reported in one of the London hospitals, in which several flattened fibroids had been expelled shortly after delivery. He thought possibly this might explain the condition found in the author's case. The sloughing of the putrid matter adherent to the fundus of the uterus would be apt to cause an effort on the part of Nature to expel the uterine body and so cause an inversion of the uterus. He concurred with the previous speaker in the opinion that the symptoms were typical of puerperal pyemia. He thought that had a post-mortem examination been held pus cavities would have been found in the veins.

Dr. Coe also thought there was not much doubt about the correctness of the diagnosis of pyemia. The remark of Dr. Grandin he was afraid might be misinterpreted, for to introduce the hand into the uterus for the removal of suspected small portions of the membranes could be considered nothing else but meddlesome midwifery. He felt sure, however, that

this was not the intention of the speaker when referring to

this subject.

Dr. R. A. Murray spoke of a case which had occurred not long ago in the Maternity Hospital. The patient had a prolonged labor, and, after three or four days of normal convalescence, became rather restless, but there was no fetor to the lochia or any other symptom present to this time. She was removed to the convalescent room on the eleventh day after confinement. At that time one of the visiting physicians examined her with the aid of a speculum, and carefully investigated the condition of the cervix and genital passages. He found everything apparently perfectly normal, except a tear on the left side of the cervix. On the following day the speaker said he was informed that there was a putrescent mass protruding from the vulva. On passing his fingers up to the cervix he found that the mass passed into the uterus beyond his reach. He removed a portion of the mass with forceps, and then was able with his fingers to deliver the remaining portion, the mass measuring four and a half inches long by two and a half inches wide, and being more than one inch thick in its middle portion. The uterine wall was so pulpy, and the fetor was so great even after washing out the uterus, that he did not deem it safe to increase the shock, from which the patient was already suffering, by any further investigation. On the following day he found the uterus normal in size, the temperature had fallen, and she made an uninterrupted recovery. There was nothing about the case resembling the placental tissue, and it was probable that it was the sloughing of the fibroid. It was quite probable that this was an explanation in the author's case.

He did not believe that erysipelas and puerperal fever were the same, nor that the scarlatina poisoning and puerperal virus were identical. He thought all cases of erysipelas, of whatever variety, could be traced, with care, to some wound in the neighborhood of the part. He had delivered five women who were in the midst of an attack of erysipelas, and they had all done well. In fact, the fever had subsided immediately after delivery. In one instance he had attended a woman in confinement who had two children with her in the same bed, one suffering from scarlet fever and the other from diphtheria, and in two other instances there had been a child in the same room suffering from one or the other of these diseases. There had been no rise of temperature in any of these cases, but he thought this was due to the fact that the poison was prevented from gaining an entrance into the genital tract. He had never yet seen a case or heard of one, accompanied by a careful post-mortem examination, which, to his mind, verified the theory of auto-infection. He had no hesitation, if it became

necessary, to go immediately from a case of scarlet fever to one of confinement, of course after thoroughly disinfecting himself. But he did believe in separating one purperal case from another, because of our inability to otherwise control the spread of the disease. When there had been purperal epidemics in the metropolitan hospitals, there had not been a single instance in which members of the attending or consulting staff had been found carrying the disease to the other patients. Yet, as with sepsis in abdominal surgery, we must conclude, when cases of purperal fever arise in our practice, that we ourselves are responsible for carrying the poison there.

Dr. Jewett thought the doctrine of auto-infection exceedingly dangerous, and one which furnished a ready excuse for uncleanliness and for negligence. It seemed hardly probable, even if germs were present, that they would remain in the genital passages after labor, as during this time they are usually pretty thoroughly washed out. With regard to the retention of the membranes and other fragments of secundines, he could not agree with Dr. Grandin that the uterus should be invaded in every case of this kind, if only membrane was retained; he thought results would be very bad if every practitioner adopted this practice. Membranes usually come away of themselves in the course of two or three days without doing any harm. He had used a curette in many cases, but was beginning to have some misgivings in regard to its use, and he was even looking about for something safer than the hand.

Dr. J. Clifton Edgar reported a case which he had seen two weeks ago. There had been a perfectly normal temperature for seventy-two hours after labor, and then it suddenly rose to between 103° and 104°. The uterus was then thoroughly curetted, and irrigated with bichloride of mercury solution 1: 8,000, and the temperature fell to normal on the following day. Two physicians who had seen the case had assured him that the placenta had come away with the membranes absolutely intact. The putrid mass which he removed seemed to consist of placental tissue. He could only explain it on the ground that this must have been a secondary placenta. Only a day or two ago he had seen another case which, four days after delivery, had suddenly developed a rise of temperature preceded by rigor. He removed from the uterus about a half-teacupful of débris resembling in its gross appearance placental tissue. The attending physician said the membranes and placenta had been delivered intact.

Dr. Brooks Wells called attention to the use of peroxide of hydrogen in washing out the uterus in cases of puerperal septicemia. He did not favor the use of the curette, except

when absolutely necessary, and he had used the peroxide of hydrogen for nearly two years past with the best results. Last summer he had seen a case in consultation in which one of the accoucheurs at the time of delivery had an infected wound on his finger with an accompanying phlebitis of the The patient, two days after delivery, had a temperature of 106°, and the attending physician was inclined to explain this upon the theory of auto-infection. The fever and other symptoms were promptly controlled by washing out the uterus with peroxide of hydrogen solution, although previous douches with a bichloride of mercury solution, after the infeeted clots had been removed by the fingers, had not produced any beneficial effect. Very recently he had seen another ease in which the temperature was 105.7° and where the placenta had been retained for eight days. The placenta was removed. and on washing out the uterus with a saturated solution of peroxide of hydrogen the temperature fell to normal within a few hours and remained there.

Dr. W. R. Pryor said that he had been unfortunate enough to pass through an epidemic of puerperal fever while an interne in Bellevue Hospital. At that time it was customary to treat such cases by continuous irrigation on a Kibbie cot. and he had noticed that the only cases in which this treatment seemed to do any good were those in which it was commenced very shortly after the onset of the first symptom. Ordinarily, after the first bichloride douche, he preferred to use Thiersch's solution. The chances of success with irrigations were good for the first forty-eight hours, but after that washing alone would not remove the frightful sloughs which occurred, and then resort must be had to the curette. He could not understand the great fear that many physicians had of this instrument, and he did not see why a puerperal septic uterus should not be treated like any other septic cavity—in other words,

why it should not be curetted and packed.

Dr. Polk said the case described in the paper strikingly illustrated the necessity for keeping the walls of the uterus apart and the internal os open. In his opinion it would have been much better treatment if the flaccid uterus had been properly drained by gauze packing. Dr. Murray's case was a good illustration of the fact that the internal os frequently, in closing, imprisons in the uterus large quantities of fetid material. The treatment by gauze packing he thought was called for in all instances where there was any possibility of infection of the upper uterine cavity, and for several years past he had been using this method of treatment after frequent irrigations, and had obtained very good results. In every case in which he had resorted to it at an early stage, only one gauze packing had been required.

Dr. Malcolm McLean thought that enough attention had not been paid to the blood clots which had remained in the uterus and undergone putrefaction. This mass, under such circumstances, would bring about all the evil which had been described in the case under discussion; and, more than this, when such masses were removed they would present the macroscopical appearance of more organized tissues, for after undergoing the changes incident to putrefaction, together with the squeezing which they would receive in the uterus, these clots would be converted into hard, fibrinous masses which were peculiarly offensive and peculiarly dangerous. A blood clot left in the uterus should be watched with the greatest care. Such masses might readily furnish an explanation of those cases in which débris was said to have been found in the uterus.

Dr. Nilsen, in closing the discussion, said that he had nothing further to add, except that the most conservative writers on obstetrics suggested that when the placenta has been examined and found apparently perfectly intact the par-

turient canal should not be disturbed.

#### REVIEWS.

TREATISE ON GYNECOLOGY, MEDICAL AND SURGICAL. By S. Pozzi, M.D., Adjunct Professor at the Faculty of Medicine, etc. Translated from the French edition under the supervision of, and with additions by, Brooks H. Wells, M.D., Lecturer on Gynecology at the New York Polyclinic, etc. Two volumes. New York: William Wood & Co., 1892.

The eminently catholic spirit pervading Pozzi's work, the even and accurate rendering of the original into the English language, the judicious pruning and additions of the editor, the beauty of the letter-press and plates—these points conjoined render the work under review most acceptable, indeed indispensable, to the general practitioner and to the specialist. A faithful and an impartial estimate of the present status of the gynecic art has been placed before the profession. Possessed of exceptionally large practical experience, imbued with the laudable aim of doing justice to all without sacrificing or unduly magnifying personal predilection, Pozzi has written a work which, for many years to come, will serve as a trustworthy guide in the study and as a lucid exponent of the practice of modern gynecology. It was no easy task to endeavor to present an exact statement of the condition of gynecology in all countries without burdening his book with a mass of detail which would have rendered it cumbersome and would have detracted from the clearness and terseness so-

701

essential to intelligent comprehension. Pozzi has, however, succeeded in so doing admirably, and even the busiest reader of this work will be able in a short time to grasp the leading points of the subject of his research. In omitting a detailed description of the anatomy of the female generative organs the author has shown wisdom, for knowledge of this nature should be acquired from special treatises on human anatomy long before the student is fitted for entrance upon the pursuit of a specialty. A large proportion of the illustrations are original, and in preparing the English edition Wells has omitted certain cuts of specula, pessaries, and complicated examination tables which, in this country at any rate, would be looked upon only as curious and useless objects. In their place he has added others which are recognized aids to diagnosis and treatment with us, and the volumes are further enriched by the insertion of fifteen chromo-lithographic plates. The bibliographical notes, which in the French edition appeared at the foot of each page, have been transferred to the end of each chapter.

Volume I., containing five hundred and eighty-one pages, three hundred and five woodcuts, and six full-page plates in color, deals with the following subjects: Antisepsis, Anesthesia, Sutures, Hemostasis, and Examination in Gynecology; Metritis; Fibroma; Carcinoma; Uterine and Genital Displacements; Deformities of the Cervix; Precocious and Delayed

Menstruation.

Volume II., containing five hundred and eighty-three pages, one hundred and seventy-four woodcuts, and nine full-page colored plates, treats of: Diseases of the Tubes and Ovaries: Diseases of the Broad and Round Ligaments; Genital Tuberculosis; Pelvic Hematocele (intra- and extraperitoneal): Extrauterine Pregnancy; Diseases and Tumors of the Vagina; Fistulæ of the Genital Tract; Laceration of the Perineum; Eruptive Diseases and Tumors of the Vulva; Malformations of the Genital Organs; Diseases of the Urinary Tract, Rectum, and Pelvis (an addition to the original by the editor, and taken from Auvard's "Traité Pratique de Gynécologie").

So much for these volumes in perspective. In entering upon a detailed analysis it is our aim to place the author chiefly in the foreground by noting the methods—in the main

the therapeutic—which he favors.

In the preface to these volumes we note what may be termed the sole blemish. Much may be pardoned national pride, but it is questionable taste to go the length our author does in claiming for his compatriots almost everything of importance in modern gynecology. Short of ovariotomy there is but little which, according to Pozzi, is not largely the result of French genius. Bimanual exploration, the speculum, the

sound, the curette—these important aids in diagnosis and therapeusis are, we are told, French in origin. Whilst we would not in the least detract from the additions which France has made to our science, such statements are hardly fair to the great minds of other nationalities—Sims, Simpson, Veit, Kiwisch, and scores of others who, if they did not actually devise the methods of exploration and treatment referred to, at least can claim the merit of having popularized them. Whilst, then, we freely grant what Pozzi obviously could not claim, that to French genius we are indebted for one of the best (if not the best) treatise on gynecology extant, we desire to enter a just claim in other respects for England, Germany, and America.

The chapters dealing with the methods of pelvic diagnosis, asepsis, suture, and hemostasis are concise and clear. The editor has greatly added to their worth by the judicious substitution amongst the cuts of instruments and appliances.

in constant use in this country.

In the treatment of metritis the author is a pronounced advocate of the curette and drainage. In his advocacy of caustic intra-uterine injections, however, he will find few in agreement with him. The safer method is direct cauterization by the applicator—a perfectly practicable method when

precedent dilatation has been secured.

The various methods devised for the operative treatment of fibroma are described in detail. While Pozzi grants that each of these methods has its peculiar sphere, in general he seems to favor extraperitoneal treatment of the pedicle. Recent results reported from Germany and from this country will doubtless lead him in the next edition to favor total ex-

tirpation of the uterus.

In reference to cancer the author advocates, in every instance where *per se* it is not contra-indicated, total extirpation of the organ by the vagina. With fairness he criticises the statistical results of high amputation, and considers, broadly, the value of such data as slight, for the reason that it appears paradoxical to him that "partial excision of the tissue about the neoplasm is as efficacious as ablation made as free as possible."

The subject of displacements of the uterus is simplified to a greater degree than is customary in treatises on gynecology. Far greater prominence is given to the operative therapeutics, as is inevitable to-day, and yet throughout in the laudable spirit of conservatism. The era of the pessary has passed, it is to be hoped never to return with the degree of enthusiasm which characterized it. Useful in a measure the instrument still is, but that it has been shorn of its quondam glory is apparent when we note the few varieties figured and described

in this work in comparison with the thousand-and-one which have been devised. The intra uterine stem (latterly miscalled a drain tube) is grauted rightly a sphere of very limited applicability. The author might have wisely rejected it altogether. The operative measures devised for the cure of displacements are all tersely described. The Alquié-Alexander method is favored in suitable cases. For direct hysteropexy Pozzi recommends warmly the continuous-hem suture, reserving this operation, however, strictly for cases of irreducible retroflexion. "If I reject," the author says, "gastro-hysteropexy at the outset of the treatment as an exaggeration of its province, yet, when we have tried Alexander's operation without success, I think that the first operation is legitimate." "When two operations are likely to give the same result, the more dangerous should not be attempted before the safer has been tried in vain."

Under the subject of the disorders of menstruation we note, with emphasis, the following statements: "Battey, and many other gynecologists following his teachings, especially in America, attach much importance to the coexistence of menstrual disorders—amenorrhea and dysmenorrhea—with grave nervous disorders—hysteria, epilepsy, mania. . . . Beyond doubt, many of these affections are of reflex origin and proceed from undeveloped or diseased ovaries. But an exact diagnosis is difficult to reach, and the surgeon should be more guarded in his opinions than many have been on the other side of the Atlantic." "Ovarian pain in itself is not enough to prove that the ovary is the starting point of the trouble." "As to oöphorectomy for mania or psychoses apparently influenced by menstruation, I believe that it should be prohibited."

The subject of inflammation of the uterine adnexa is considered under the subdivisions Non-cystic Salpingitis, Cystic Oöphoro-Salpingitis, Perimetro-Salpingitis. These divisions are excellent ones, clinically and anatomically. Non-cystic salpingitis includes the acute catarrhal, the acute purulent, the chronic parenchymatous form; cystic salpingitis includes hydro-salpinx, hemato-salpinx, and pyo-salpinx; perimetro-salpingitis includes under one heading what have been elsewhere specifically described under Perimetritis, Parametritis, Phlegmon of the Broad Ligaments, Pelvic Abscess, Pelvic

Cellulitis, etc.

The first subdivision does not stringently call for removal of the appendages. Spontaneous cure is possible, and even a restitutio ad integrum must be admitted. Treatment of the cavity of the uterus, in particular drainage, has frequently been of service to Pozzi in the cure of an incipient salpingitis. Where the source of the tubal trouble is the uterine cav-

ity, it is most rational to attempt the arrest of this trouble through resort to active intra-uterine therapeusis. Thus, we believe, will the number of cases proper for extirpation be considerably curtailed. Laparatomy will be reserved, as it ought, for those eases where the severity of the symptoms leads to the suspicion of purulent salpingitis, or where careful bimanual exploration satisfies the gynecologist that there exists one or another of the varieties which Pozzi includes under his second heading—"cystic oöphoro-salpingitis."

The third variety—"perimetro-salpingitis"—is based upon the assumption that a salpingitis is often the starting point of inflammations in the neighborhood of the uterus, the broad ligament, Douglas' cul-de-sac, and pelvic cellular tissue. The acceptance of this term and all it implies assuredly does much to simplify the subject of inflammation around the uterus. Pozzi's experience has satisfied him that nearly all peri- and parametric inflammations are merely forms of salpingitis and of perisalpingitis. It is freely granted that the pathology and clinical data of to-day tend to the substantiation of this view. Of course its acceptance implies the absolute rejection of belief in the independence of pelvie abscess and of pelvic cellulitis. There are still observers who will not accept such a radical change, for the reason that they meet with collections of pus in the cellular tissue of the pelvis aside from implication of the appendages. Instances of this nature come more particularly under the observation of the obstetrician in the post-puerperal period, and for the present we would personally still cling to the belief, even though it appear antiquated to many, that within the limitations stated Pozzi's term—perimetro-salpingitis—is too general.

In reference to the therapeusis of these latter affections, there are but few instances where, according to our author,

laparatomy is not indicated.

Whilst Pozzi recognizes the difference between extra- and intraperitoneal hemorrhage, he does not use, as we think it eminently proper to do, the term hematoma. From a therapeutic standpoint hematocele (intraperitoneal hemorrhage) and hematoma (extraperitoneal hemorrhage) must be, in the vast majority of cases, sharply differentiated, and one means of impressing this fact on the student and practitioner is the use of different names. Pozzi's views in regard to treatment are not over-radical. In case of hematocele he does not contend that active interference is justified, except on the appearance of symptoms which may endanger the life of the patient. The exception to this rule is the diagnosis of hemorrhage (intraperitoneal) from rupture of a tubal pregnancy. Here speedy section most emphatically alters the extremely bad prognosis of former days. Where, however,

the etiological factor of hematocele is other than the one just noted, Pozzi prefers vaginal incision to laparatomy. "Transperitoneal laparatomy," he says, "should rarely be performed, on account of the danger of septic peritonitis." In case of extraperitoneal hematocele (hematoma) Pozzi counsels expectant treatment, unless the gravity of the symptoms demands interference, when he prefers subperitoneal laparatomy to transperitoneal.

The chapter on Ectopic Gestation is written in accordance with modern views and not overburdened with ancient statistical data. The author accepts, practically, Tait's classification. He is, however, more positive in his recognition of the possibility of both the interstitial and the ovarian varieties. In reference to treatment, he is a strong advocate of abdominal section as soon as the condition is discovered. The scanty reference to the treatment by electricity of unruptured tubal gestation in the early months is satisfactorily atoned

for by the editor.

The descriptions of a number of the operations which have been devised for the repair of the lacerated perineum and of lesions of the pelvic floor are very clear and are illustrated by excellent cuts and plates. The editor interpolates a satisfactory account of Emmet's operation, much more intelligible, indeed, than any we have noted elsewhere. Whilst granting that each of the procedures described has its proper scope. Pozzi expresses decided preference for the flapsplitting method, especially in case of complete rupture.

The concluding chapters on Disorders of the Urinary Tract and on Diseases of the Rectum and Pelvis (both of which are translated from Auvard's treatise on gynecology) serve to

round out a finished whole.

Each of these volumes is separately and carefully indexed, and that of the second volume contains references as well to

the subject matter of the first.

Our emphatic commendation of this American edition of Pozzi's treatise we feel will meet with the indorsement of the profession as a unit. E. H. G.

SURGICAL DISEASES OF THE OVARIES AND FALLOPIAN TUBES, INCLUDING TUBAL PREGNANCY. By J. BLAND SUTTON, F.R.C.S., Assistant Surgeon to the Middlesex Hospital; late Hunterian Professor and Erasmus Wilson Lecturer, Royal College of Surgeons, England. Philadelphia: Lea Brothers & Co., 1892. Pp. xvi., 500.

Mr. Sutton's name upon the title page of a monograph on diseases of the ovaries and tubes is in itself an assurance of fresh and original work in a field which he properly regards as comparatively untilled. The opening sentiments of the

preface are, though doubtless essentially true, not happily expressed. "Those engaged in that section of surgical craft known by the grandiloquent term Gynecology," as the author sarcastically expresses it, may have some ground for the criticism that "egoism" is not unknown among pathologists. Although somewhat uneven, giving the impression of being a collection of scattered papers rather than a continuous monograph, the little book will repay careful reading. It is divided into four parts, the second and third of which, treating respectively of salpingitis and tubal pregnancy, being by far the most valuable. Part IV., on operations, might have been omitted without detriment to the rest of the work, since the details, though given in an admirably concise and practical manner, are sufficiently familiar to gynecologists. The closing chapter, on the remote effects of removal of the ovaries, is interesting in view of recent society-discussions. While the reader feels that Mr. Sutton is entitled to speak ex-cathedra on most of the subjects of which he treats, and therefore that extended references to the literature are not so necessary as in the case of a less original writer, one cannot avoid a feeling of surprise that so little value is assigned to the work of any except English pathologists.

Part I., on diseases of the ovaries, including nearly onehalf of the book, contains eighteen chapters, which deal with a wide range of subjects, from menstruation to the differential diagnosis of ovarian tumors. The writer does not assign the same etiological importance to the tubes in relation to menstruation as Tait. "Sufficient cases have been recorded," he believes, "to render it absolutely certain that the dominant organs of the menstrual function are the ovaries." Interesting observations in comparative anatomy are recorded.

The absence of a thorough discussion of the subject of oöphoritis is a matter of both surprise and disappointment. The anthor's interest seems to be centred in cystic degeneration and tumor-formation. The chapter on oöphoritic cysts is much condensed. It concludes with this important statement: "Evidence is accumulating in favor of the view that rapidly growing adenomata of the ovary may, if the loculi rupture, infect the peritoneum." Why this statement is not emphasized with regard to papillomatous cysts is not clear. The chapters on dermoids and on solid tumors of the ovary are especially interesting. In a separate chapter on ovarian tumors in infancy and childhood the writer refers at length to the malignant growths met with in young subjects that he believes form a class sui generis, hitherto little studied, for which he suggests the term "oöphoromata." He also prefers to call tubo-ovarian cysts "ovarian hydroceles," giving an ingenious explanation of his view, that "they arise in a

tunic of peritoneum that occasionally invests the ovary, much in the same way that the tunica vaginalis clothes the testis."

Contrary to some writers, he believes that hydrops tubæ profluens is extremely rare. The chapter on axial rotation is interesting rather from a clinical standpoint, since it contains no new pathological facts, especially with regard to the much-

vexed question of etiology.

A disproportionate amount of space is devoted to the subject of diagnosis of ovarian tumors, on which so much has already been written. Explorative puncture as a means of diagnosis is regarded with disfavor. The dogmatic statement that the microscopical examination of ascitic fluid furnishes no information with regard to the presence of malignant disease of the ovary or peritoneum is at variance with the results of observers as experienced as the writer, though per-

haps less positive.

Chapter XX., on salpingitis, and especially the description of the formation of pyo-salpinx, is, on the whole, the most clear and satisfactory account of the process of inflammation in the Fallopian tube that we have read. There have been so many vague, theoretical descriptions of these changes that it is refreshing to follow the concise, logical views of one who writes of that which he has seen. We are glad to note that such a high authority denies the loose statements which are current with regard to the periodical escape into the uterus of the contents of dilated tubes. Again (on page 263) we are heartily in accord with the statement that pure hemato-salpinx, not due to ectopic gestation, is exceedingly doubtful. "It must be remembered," he properly remarks, "that neither a dilated tube filled with chocolate-colored fluid, nor an undilated tube containing free blood, is a hemato-salpinx."

Part III., on tubal pregnancy, is by far the most important and original portion of the book, and easily takes the precedence of the mass of literature with which the subject is burdened. Mr. Sutton's views are already tolerably familiar to special readers, but they have hitherto appeared in a fragmentary form in occasional papers and society-reports. We commend these chapters to the careful attention of all who wish to gain a clear insight into a subject which has been rendered hopelessly obscure by those who have essayed to put forth theories not based on a patient study of anatomical spe-Few pathologists possess a sufficient grasp of the matter to question the truth of the writer's statements, even where they do not entirely agree with him. The question of primary versus secondary rupture of the gestation sac has long been the bête noire of laparatomists with pathological leanings. Mr. Sutton has certainly done much to elucidate it. We are also indebted to him for emphasizing the fact that we can no longer accept the teaching of Bernutz and Goupil with regard to pelvic hematocele, which must now be regarded as due in nearly every case to ruptured tubal pregnancy. There are many subjects of special interest which we note, such as tubal abortion, tubal moles, cornual pregnancy, and a separate chapter on tubal gestation in the lower mammals.

It is impossible to do justice to this valuable monograph in such a brief notice, but we have said enough to indicate to the reader its faults as well as its good points. While the latter predominate, it is only fair to state that the writer would have done himself more justice by sticking closely to pathology. The introduction of so many chapters on symptomatology, diagnosis, and treatment, which are neither better nor worse than corresponding ones in standard works on gynecology, distract the reader's attention from the really valuable and original work on pathology. Condensation would materially improve these. Surgeons of wide experience, while accepting without question his positive statements on anatomy, might be inclined to treat more lightly recommendations with regard to operative technique.

The writer's style is terse and forcible. Having a clear idea of his subject, he makes it clear to the reader. One feels that every sentence is the outgrowth of personal experience. Each chapter concludes with a brief summary of the conclusions reached—a pleasing innovation on most scientific works. The illustrations are nearly all original and are beautifully executed. Compactness is the distinguishing characteristic of the work, for which we bespeak a cordial reception and careful reading.

H. C. C.

## ABSTRACTS.

Brief of Current Literature.—Abscess of Gall Bladder treated by Abdominal Section.—Henry T. Byford 'reports such an operation for an abscess occurring in a patient who had recovered from diphtheria two weeks before the operation, and who was taken from the infected rooms without a general bath or perfect isolation from the other infected cases. There was an almost complete suppression of urine for twenty-six hours after operation, without bad after-effects. The abscess followed mild symptoms of hepatic colic, and the commencement of the signs of suppuration came after the attack of diphtheria. The operation was divided into three different stages and carried out at separate times. Localized rheumatic arthritis was associated with the hepatic symptoms.

Adherent Placenta.—Llewellyn Eliot <sup>2</sup> expresses the treatment for this condition in three words, "Remove the placenta," and adds details as to the best method of so doing.

American Indian Womanhood.—Wm. Thornton Parker <sup>3</sup> devotes several pages to the consideration of the health and the customs of the women of the North American Indian tribes, in order to prove that childbirth among them has been a peculiarly easy function, seldom attended with inconvenience or with danger to health or life.

Appendages of the Uterus.—Their removal is treated of in a clinical lecture by E. E. Montgomery, who, while approving of radical measures where the tubes are hopelessly diseased, advocates dilatation and drainage of the uterus in sim-

ple cases.

Appendicitis.—Under the title of Inflammatory Troubles of the Right Iliac Fossa, August Rhu<sup>2</sup> considers the affections dependent upon a diseased condition of the appendix vermiformis. He calls attention to the danger of a mistaken diagnosis. Early, prompt recognition of the condition and early operation are imperative.

L. Ch. Boislinière warmly advocates Cesarean Section in place of Craniotomy, holding that we are never justified in killing an unborn child in order to save the mother, and that

the operation is now attended with very little danger.

Carcinoma Uteri not accessible to the knife has been treated by H. J. Boldt with injections of pyoktanin (blue) to lessen the various discomforts caused by the disease. In the cases reported the raw cancerous tissue developed a more healthy granulating surface, the infiltration subsided to some extent, and the cancer developed no further. The analgesic

effects were marked.

Catgut in Gynecological Operations.—William Goodell' considers this a most valuable agent in surgery, and the objections groundless which are urged against its use. He employs it in accidental rents of bowel and bladder during operation, in the radical cure of hernia and anal fistula, removal of the eoccyx, extirpation of vulvo-vaginal glands, labial cysts and tumors, amputation of hypertrophied cervix, but does not find it reliable in plastic surgery nor in complete laceration of the perineum, unless reinforced by silver wire or silkworm gut.

Chancres of the Genitalia in Women.—R. W. Taylor sonsiders them of more frequent occurrence than in men. He classifies them as: 1, the superficial or chancrous erosion; 2, the scaling papule or tubercle; 3, the elevated papule; 4, the enerusted chancre; 5, the indurated nodule; 6, the dif-

fuse exulcerated chancre.

In a case of impending fatal Collapse after Ovariotomy,

with aseites, T. Johnson-Alloway, perceiving that the condition was due to the sudden withdrawal of about three gallons of fluid, injected about three quarts of sterilized salt solution, of a temperature of 110°, into the abdominal cavity through the glass drainage tube which had been inserted during the operation. Within six minutes the patient passed from a state of extreme collapse to a condition in which the pulse beat full and strong and 110 per minute, and went on to good recovery.

The Absence of all Organs of Reproduction was met with in a case by L. B. Snow.<sup>10</sup> The patient was a married woman, in whom the external genitalia were perfect, except that no glans clitoridis could be found. There was no trace of va-

gina, uterus, Fallopian tubes, or ovaries.

Hermaphroditism.—H. D. Bishop 11 reports a case of spu-

rious hermaphroditism.

Diagnosis of Pregnancy in the Early Months.—Chas. Jewett 12 believes that in the great majority of cases the signs of the second month are sufficient to establish the diagnosis, and that, in the absence of pelvic disease, pregnancy may be positively predicated between the eighth and the twelfth weeks. The changes in size, shape, and consistence of the uterus are the signs upon which to rely in a diagnosis. The softening of the mesial section of the lower segment of the uterine body at a point immediately above the cervix is the essential fact in "Hegar's sign," which is defined as compressibility of the isthmus uteri. Hegar passes the index finger into the rectum to a point opposite the isthmus, and the thumb of the same hand into the vagina; at about the sixth week of pregnancy the tissues intervening may be compressed to almost the thinness of a visiting card. Jewett finds little difficulty in demonstrating the compressibility of the isthmus by the usual bimanual exploration, by forcing the uterus well forward and downward with the outer hand. Diagnosis of ectopic pregnancy is more difficult than in normal cases, but is usually possible.

Early Diagnosis in the Pelvic Diseases of Women.— B. F. Baer 13 urges early diagnosis, especially in cases of metrorrhagia at the menopause, the phenomenon not being physiological, as is generally believed, but usually due to

local disease, possibly of a malignant nature.

Ear Presentation.—A. Brothers reports a case of the kind converted by combined external and internal manipula-

tion into a vertex presentation.

Ectopic Gestation.—Carter S. Cole 14 gives a clinical record of a case in which he believes that by the application of electricity an ectopic gestation was converted into a uterine. The diagnosis of this condition in a pre-rupture state

cannot, without operation, be absolute; but, immediate operation on a mere suspicion not being justifiable, he suggests that electricity, which is comparatively safe in intelligent hands and often efficient, is worthy of careful trial, the operator being prepared to resort to laparatomy at any time should it prove necessary.

C. A. Kirkeley believes laparatomy to be the only rational treatment of this condition; galvanism and injections he

condemns.

Forbes R. McCreery 15 reports a case of supposed abscess for which exploratory laparatomy was performed without finding the cause of trouble. Fetal bones were passed per anum, and when the author first saw her a bone with rough, serrated edges was found protruding into the bowel about two and one-half inches from the anus. Several bones were removed, and the patient is now doing well.

A. H. Cordier 16 advocates prompt surgical interference in

ectopic gestation, and reports two cases.

Wm. Goodell 'gives a clinical lecture upon the subject of

abdominal section in extra-uterine fetation.

X. O. Werder 18 reports a case in which rupture occurred six weeks before the operation of laparatomy was performed, the patient making a good recovery. He believes that the conservative efforts of Nature would have succeeded in restoring the patient's health in time without interference. Yet prompt interference is often needed, and laparatomy should not be abandoned.

Albert Morrison "gives the clinical history of five cases of

ectopic pregnancy.

Hunter Robb 20 reports a case of rupture of the sac through the fimbriated extremity without tearing the Fallopian tube.

Endometritis.—J. M. Baldy believes that this affection, as an independent disease, is quite a common disorder. obtains excellent results by dilatation of the cervix, curetting of the uterine cavity, followed by irrigation and an application of Churchill's iodine.

Explorative Incision.—T. Gaillard Thomas 4 enters a plea for this measure in eases of ascites in women, having in his own experience seen many lives saved thereby. Many cases due to chronic or tubercular peritonitis, which by repeated tappings prove fatal, may be cared by opening the peritoneal

eavity and thoroughly draining it.

Fallopian Tubes.—Thomas More Madden 21 deplores the fact that many gynecologists fail to remember that not only should one aim to remove disease, but to restore the functional and structural integrity of the affected organ. Instead of immediately resorting to extirpation, he frequently treats pyo- and hydro-salpinx by aspiration; chronic salpingitis by

euretting the fundal orifice of the tubes, and by faradization. In some cases, of course, removal of the appendages is indicated, but he believes these to be more exceptional than is generally supposed. He describes the operation as practised

by himself.

Fecal Fistula following Removal of Abdominal Tumors.—
Mr. McArdle <sup>22</sup> considers that the trouble may be produced by: 1. Extension of suppuration from the tumor into the intestine. 2. Ulceration from the intestine extending into the tumor. 3. Local necrosis of the bowel wall, due to pressure of the tumor. 4. Tearing of the coats of the bowel during operation. 5. Disturbances of the nutrition of the bowel owing to injury of the vessels of the intestine. 6. Constant pressure of the glass drainage tube in contact with the bowel. Early interference is unjustifiable when the fistula is from a fixed portion of the intestine. When operation is demanded it should be thorough and aim at the closure of the intestine.

Fibroma.—C. B. Porter <sup>23</sup> reports a case of diffuse fibroma with a tendency to intracanalicular growth of both breasts. The disease began with a small, hard lump in the right breast, the left breast becoming involved three months thereafter. At the end of six months the right attained the size of a baby's head, the left being a little smaller. At the end of three years the largest circumference of the right breast was thirty-eight inches, length from chest wall to nipple seventeen inches; the left somewhat smaller. The breasts were removed in two operations with an interval of three weeks. The patient made a good recovery, but subsequently became exhausted from a long sea voyage, developed erysipelas, abort-

ed a five to six months' fetus, and died in collapse.

Gall Stones.—James F. W. Ross 5 writes emphatically upon the dangers of gall stones. Medical treatment may delay their re-formation after operation, but will not remove them after they have formed. Exploratory operations should be performed in severe cases to establish the diagnosis. Gall stones may injure the liver by damming back the bile, cause ulceration and perforation of gall bladder or duct, venous stasis and hemorrhage from the bowels, originate cancer, cause obstruction of the bowels, cholemia, and abscess of the liver. Surgery is the only resource, and the death rate from the operation has been small. Total removal of the gall bladder is rarely ealled for. The author discusses and describes three procedures: 1. Opening the gall bladder and fastening it in the wound. 2. Opening the gall bladder and dropping it back into the abdomen. 3. Operations on the common duct itself, and supplemental proceedings to overcome the obstruction when certain conditions are present.

Gonorrhea in Women.—James T. Jelks "discusses some

of the effects of this condition, which he considers a far more serious affection than many believe it to be. Robinson states that gonorrheal puerperal peritonitis depends mainly upon the exacerbation of a chronically or recently inflamed gonorrheal organ; that conception and gonorrheal infection may occur at the same time, the fever appearing after abortion or labor. It most frequently attacks primipara. The gonorrheal parturient woman is more apt than another to succumb to epidemic puerperal fever.

The general effects of gonorrhea are suffering, inflammation, disturbed menstruation, sterility, abortion, and a puerperal peritonitis. The habitat of the gonococcus is cylindrical epithelium; the disease is an unlimited, progressive disease of the cylindrical epithelium of the generative tract, and is the only infectious catarrhal disease of the female organs.

Gravid Uterus.—J. R. Guthrie 20 holds that operations for lacerated cervix, etc., can be performed during pregnancy

with very slight danger of producing abortion.

Hematocele, Pudendal, in the Non-Puerperal State.-E.

Stuver 24 reports a case of this nature following injury.

Hysterectomy, Sacral.—Fred. Kammerer <sup>25</sup> describes an operation for the removal of a cancerous uterus, and argues in favor of the median incision with transverse section of the sacrum. This operation is to be preferred to laparatomy or vaginal hysterectomy where the cancerous process has invaded the vaginal wall and broad ligaments, as affording a more exposed field of operation, with the possibility of the removal of infiltrated lymphatics.

Vaginal Hysterectomy for Carcinoma Cervicis in Early Pregnancy is the subject of a paper by D. Berry Hart. J. M. Baldy favors removal of the diseased uterus with the tubes and ovaries, rather than of the appendages alone, in the treat-

ment of uterine tumors.

Hystero-epilepsy.—A. Vander Veer favors removal of the uterus and appendages in some cases of this affection rebel-

lious to all other treatment.

Inversion of a Non-puerperal Uterus.—John B. Roberts <sup>25</sup> reports the case of a patient in whom complete inversion of the uterus was caused by a polypoid fibroid tumor attached to the fundus. Efforts at replacement were of no avail, and a partial vaginal hysterectomy was finally resorted to. The patient succumbed to shock.

C. P. Bissett ' reports a case of fatal inversion caused by

traction on the cord by an ignorant midwife.

Laparatomy under Cocaine.—Emory Lanphear 26 reports a case of gastrostomy in a man, which was performed under local anesthesia from cocaine, a half-drachm of a four-per-cent solution being injected in eight places along the proposed

line of incision. There was no pain, nor even sense of discomfort. Shock was totally absent, and there was no vomit-

ing as after the administration of ether or chloroform.

Manual Rectification of Certain Malpositions of the Head in Labor.—William Wenning, while not deprecating the use of the forceps, advocates the more frequent use of the hand in many obstetrical complications. He recommends it:

1. To convert occipito-posterior into occipito-anterior positions.

2. To change (normal) face presentations into those of vertex.

3. To correct (abnormal) mento-posterior position of the face into the (normal) mento-anterior position; and 4. To correct deflections of the head.

Maternal Impressions.—William Bodenhamer <sup>27</sup> contributes a few reflections upon the ancient dogma of maternal imagination or impression as a factor or a disturbing element in the production of numerous and various abnormalities of

the embryo or fetus in utero.

Meddlesome Midwifery.—N. Watson <sup>28</sup> protests against too frequent examinations, which produce a dry and congested condition of the passages, against the administration of ergot to precipitate labor, against the use of instruments merely to save the time of the attendant, and against the exaggerated use or misapplication of antiseptic douches upon every slight rise of temperature.

The Menopause is discussed by Theophilus Parvin <sup>20</sup> in a clinical lecture. While not a dangerons period, as is popularly supposed, it is rare for a woman to pass through this period without some suffering or physical derangement. Celibacy lessens the liability to disorders. The chief disorders have their origin in blood plethora and in nervous

plethora, to use a French expression.

Menstruation, Complete Absence of.—Hubbard Winslow Mitchell <sup>30</sup> reports a case in a young woman of 24 years, perfectly healthy and normal in every other function. The cervix is small, round, and rather less in size than the average. Depth of uterns, two and a half inches. The labia somewhat

undeveloped; clitoris about normal.

Metritis as an Initial Lesion in Pelvic Disease.—G. Betton Massey <sup>31</sup> urges more conservatism in the treatment of pelvic disease, claiming that many cases of inflammation of the appendages may be cured by treatment of the metritis which is usually the cause of the trouble. He advocates electricity, both external and internal.

Myoma of the Uterus.—Hugh McColl advocates removal of the appendages for the cure of these tumors, except where the disease is so far advanced or the nature of the case is such

that hysterectomy becomes the necessary alternative.

The Nervous System and some Forms of Endometritis, En-

docervicitis, and Leucorrhea.—A. B. Shaw <sup>32</sup> emphasizes the relation between the female organs of generation and the nervous system. Gynecologists should in a measure be neurologists. Derangement of the uterine functions may be due to a debilitated or disordered nervous system, and many cases which do not improve upon local treatment may get well under a tonic regimen, with rest or exercise as indicated.

Obstetric Problems.—Under this title D. J. Smith 6 considers the development and uses of the amnion, the source of the amnial fluid and its economy, and the causes of head pre-

sentations and internal rotation.

Oöphoritis.—Robert Bell <sup>19</sup> believes that when this disease exists it has usually been preceded by endometritis; endocervicitis having more influence as a factor in inducing ovarian irritation than disease of the corpus and fundus uteri. Laceration of the cervix is often the starting point of the trouble. By treating the endometrium and by repairing injuries to the cervix many eases of oöphoritis can be cured without re-

sorting to oöphorectomy.

Thomas More Madden enters into the pathology, etiology, and treatment of acute and chronic ophoritis. In the first variety poultices, hot anodyne stupes, leeches, hot baths, opiates, bromides, etc., may give relief; in the second, counterirritation with iodine or blistering, inunctions of oleate of mercury with morphine over the affected gland, nerve sedatives or tonics, and treatment directed to the anemic, hysterical, or neurotic constitutional condition usually present. When suppuration occurs the abscess may be emptied by aspiration and the cavity washed with an iodized injection, or the ovary, or ovary and tubes, may be removed.

The Habitual Use of Opium in the Pelvic Troubles of Women is severely commented on by the editor of the Maryland Medical Journal, 33 who accuses the general practitioner of creating opium slaves by so frequently resorting to its use. Marie Werner 16 also protests against the use of opiates to quiet pain at the menstrual period, urging the more rational procedure of treating the cause. Morphia lulls pain temporarily only, and by producing constipation eventually increases it. Its use after pelvic operations should be discouraged. In patients of the uric acid diathesis opium tends to store up the

acid.

Ovary.—Stewart Paton <sup>34</sup> discusses superficial papilloma of the ovary. He considers the term malignant a misnomer as applied to them, for, though they show a tendency to recur, it is by direct implantation and not by metastasis. Under the microscope the dissimilarity between the mode of development of papillomata and that of the embryonic carcinomata and sarcomata is very striking, the new tissue not being cut off from a basis of food supply. The author has been unable to find a single ease in which there has been a succession or recurrence of the growth in a more lowly organized but malignant type. Their removal, with subsequent drainage of the peritoneal cavity, undoubtedly prevents recurrence, the drainage being an all-important factor and the employment of drainage tubes essential.

Most cases begin with symptoms resembling those of subacute peritonitis, which subside and are followed by ascites.

The patient's health is usually little impaired.

C. M. Green <sup>35</sup> reports a case of *papilloma* of the ovary and Fallopian tube, interesting because of the rapid development of the growth, an unexplained effusion occurring at the end of the second week after operation, and its complete disappearance.

Pelvic Suppuration.—Felix Formento <sup>36</sup> treats this condition by vaginal debridement and antiseptic drainage according to La Royenne's method, which he considers complete,

safe, and of easy execution.

Placenta Previa Centralis.—J. A. Spingle a reports a case terminated favorably by version and rapid extraction of the fetus.

Pregnancy with Ovarian Tumor.—Wm. Gardner reports four cases with three operations. He believes it to be unsafe to leave such cases to Nature, deeming ovariotomy with modern precautions nearly as safe as in the non-gravid condition of the uterus. The indication for the operation in the case of small abdominal tumors is even more urgent because of the liability to torsion of the pedicle, and in pelvic tumors because of the almost certain rupture or necrosis from compression during labor.

A fatal case of Pyelo-nephritis after gonorrhea in the fe-

male is reported by Chauncey Palmer. 37

Rectal Derangement in Women.—J. N. Martin believes that this condition plays a great part in the causation and complication of pelvic troubles, and should receive careful attention from the physician. Regularity of habit should be advised, the diet regulated, abdominal massage and tonic laxatives in small doses three or four times daily, as the combination of fluid extract of nux vomica and fluid extract of cascara.

Retained Placenta after Abortion.—James A. Winter gives the history of a case in which a placenta was retained

for six months and discharged after the use of ergot.

Retroversion of Virgin Uterus.—William A. Edwards <sup>38</sup> reports a number of cases caused by falls, the lifting of heavy objects, and other trauma. As a result of observation and dissection he does not believe that the utero-sacral ligaments play a part in retention of a retroplaced virgin uterus. He has found the cul-de-sac of Douglas filled with coils of small

intestines in dissections, and believes that the pressure exerted by them upon the uterus is frequently the cause of its incarceration.

Ruptured Uterus.—Edw. Reynolds <sup>39</sup> is convinced by practical experience that laparatomy and suture of the rent are by no means indicated in every lacerated wound of the uterus. The three dangers to which the patient is exposed are: exhaustion of primary shock, hemorrhage, and peritonitis. Should shock be unaccompanied by hemorrhage, the patient usually recovers by the subcutaneous use of stimulants and the application of artificial heat. Laparatomy should be performed in the presence of persistent hemorrhage, and in cases where the rent is small or inaccessible and the quantity of foreign material introduced into the peritoneal cavity excessive or of a septic character; otherwise flushing the abdomen and a supporting treatment, combined with the use of saline cathartics, should be sufficient.

George Haven <sup>39</sup> believes in opening the abdominal cavity and uniting the tear by deep subserous stitches in all cases where too much uterine tissue is not involved or the edges

not too much bruised and torn.

Du Barry <sup>40</sup> presents notes of a case of rupture of the cervix in a woman with a conjugate diameter so small that the head never came in contact with the os. The uterus was incised between the os uteri and the tear, the fetal head perforated, and the child delivered. Three months after con-

finement the uterus was normal in size and position.

Spinal Column in the Infant.—J. W. Ballantyne 11 concludes from a study of this subject that the spine is in a transition stage during infancy; that at birth the total length of the body is about two and a half times that of the spine, the proportion being due to the large size of the head. well-developed infants the lumbar part of the spine is longer than the cervical, the proportion being about as five to four. The spine is very flexible because of imperfect ossification and weak muscular action. There are no fixed curves save that caused by the slight projection of the sacral promontory, but a general curvature about this promontory usually exists. If the bones be unusually soft and the muscles weak, and if the infant be encouraged to sit up at too early an age, this natural and temporary kyphosis may become pathological and permanent. In the new-born infant the characters of the facets of the occipito-atlantoid articulations are not such as to permit of safe and extensive movements.

Sterility.—J. R. Vanderveer 19 believes that the os externum is receptive and concerned in conception, the os internum in the retention of the impregnated ovum. Pathologi-

cal conditions of both ossa should be treated, and care taken

that their normal functions be not impaired.

Surgery of the Pelvis and Abdomen.—M. B. Ward 2 devotes several pages to a review of methods in use by various operators, adding many hints as to the technique of operations and the after-treatment of patients. He uses the drainage tube less often in the abdomen than formerly, though not deprecating its use. He prefers Chinese silk for internal organs, silkworm gut to close the abdomen. Aristol rather than iodoform is used to dust over the wound.

The Effect of Trachelorrhaphy upon Parturition.—Anna M. Fullerton 42 reports two cases in which the first stage of dilatation was so prolonged and attended with so unusual a degree of suffering because of a previously performed trachelorrhaphy, as to cause her to question the wisdom of the procedure. The removal of large portions of tissue from a greatly hypertrophied cervix cannot but result in the absence of sufficient tissue to respond to the requirements of dilatation during delivery. The author urges the necessity for greater thought, on the part of the average obstetrician, to the management of the first stage of labor. An exact knowledge of the size of the pelvis, the relative size of the child, the extent of ossification of the fetal skull, the position and presentation of the fetus, the degree of extension or obliquity of the fetal head when it presents-may all suggest methods of management which may avert the danger to the integrity of the cervix.

Uterine Displacements.—The significance of this condition is discussed by W. Gill Wylie. If believes that straining at stool is more effectual in displacing the uterus than any other cause. Displacements, however, should not be considered as a disease, but merely incidents accompanying disease of the uterus. Anteversion and anteflexion, unless the uterus becomes wedged under the pubic arch, are not pathological conditions in themselves, but are likely to be accompanied by a diseased condition of the mucous membrane. Retrodisplacements are not a disease, but seriously complicate existing disease. Fixation of the uterns causes far more harm than malposition. Pessaries should never be used for anteversion; divulsion, curetting if necessary, the application of carbolic acid, and drainage, will do more good than any other treatment. In other displacements pessaries may be used supplementary to other treatment, and should always be of hard A boroglyceride pledget is the best thing to hold the uterus in place and at the same time stimulate the circulation of the pelvis.

Henry Banga<sup>2</sup> advocates the temporary use of pessaries in prolapse, of operation when no instrument is able to retain the uterus in place. In cases of ante- and retroflexion he treats accompanying inflammatory conditions rather than the

displacements themselves.

Uterus Bicornis Duplex.—Fanny Berlin<sup>3</sup> reports a case of a young girl of 15 years who suffered from a severe type of dysmenorrhea. A tumor was felt in the right cul-de-sac and diagnosed by various physicians as an ovarian tumor. Laparatomy revealed a double uterus, the cervix of the left uterus only being felt in the vagina. The right uterus was laterally flexed upon itself. Operation was followed by a fatal result. At the post-mortem two uterine bodies were found, each with a Fallopian tube and corresponding ovary. The two bodies were united at their necks by a band; the left uterus, from fundus to os externum, measured seven centimetres; the right, after correction of the lateroflexion, seven and three-quarters, and possessed no os internum, a small depression only in place of an os externum, and no definite uterine canal except at the upper portion.

Vaginal Hysterectomy, in malignant disease of the uterus which has not invaded the surrounding tissues, is advocated

by E. E. Montgomery. 43

C. C. Frederick<sup>5</sup> also favors it, and prefers the use of the ligature to that of clamps. He gives details of the technique

of the operation.

C. V. High<sup>44</sup> urges greater caution during this operation, to avoid wounding the ureters, and describes a method which he has devised for their protection, which consists in the introduction of specially constructed sounds into the ureters.

Uterine Appendages.—Z. II. Evans \*\* removed both tubes and ovaries in a patient suffering from irregular and painful menstruation. There was no fundus uteri, both tubes emptying into a small cup-like depression. Forty-one days after the operation menstruation occurred, attended with pain and discomfort, and for sixteen months thereafter returned with regularity.

Uterine Fibrous Polypus and the operations for its removal

are discussed by Theophilus Parvin.4

Ventrofixation of Prolapsed Uterus.—Otto Engström <sup>46</sup> favors this procedure in some cases of prolapsed uterus, when the womb is completely or almost completely protruded and the vagina quite inverted. He reports several cases of operation successful in their results and discusses some mooted points of technique. He does not consider it an ideal operation, but believes it to be of value in cases of prolapsus where other means have not succeeded in remedying the evil.

Vomiting of Pregnancy.—T. Ridgeway Barker 47 considers the digestive disturbance to be purely sympathetic and

a physiological rather than a pathological process, except

when it extends beyond the period of quickening.

Harrison Mettler 19 believes it to be emphatically a pathological process due to the aggravation of a perverted nervous system by gestation. The vomiting is due, not to the affection of any one centre in the medulla, but rather to lack of coordination between widely separated parts of the nervous system, and appropriate general treatment will best meet the indications.

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# THE AMERICAN

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#### ORIGINAL COMMUNICATIONS.

ON THE ALLEGED GROWTH OF THE PLACENTA IN EXTRA-UTERINE GESTATION AFTER THE DEATH OF THE FETUS.

BY

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(With five illustrations.)

Within recent years the statement has been confidently made by several eminent gynecologists that the placenta in extra-uterine gestation may grow after the fetus has died. Up till recently I was of the same opinion, but fresh consideration of this belief in the light of new material has seriously shaken me in it, and I therefore wish to reopen this question.

Mr. Lawson Tait 'says: "As I am responsible for having made a statement that I had seen the placenta growing after the fetus had clearly been dead for some time, let me here draw the attention of Dr. Buckmaster and others to the evidence upon which the statement is based. In Case No. VI.

<sup>&</sup>lt;sup>1</sup> The small figures refer to Bibliography at the end of the article.

the rupture had occurred apparently in the tenth or eleventh week of a gestation, and the placenta was lying in the midst of a quantity of clots as a round mass the size of a cricket ball, for the most part in the wall of the tube, for when the tumor was removed the placenta was still adherent to part of its inner surface and the pelvic mass was intact. On slitting it open the ovum cavity was found to contain about a dessert-spoonful of liquor amnii, but there was no trace of fetus at all.

"As we have very frequent experience of this kind of incident—the growth of a huge placenta, embracing a small ovum cavity without any, or with only a slight, trace of a fetus in the so-called uterine 'moles'—we have no reason to do other than expect that it will occasionally occur in tubal pregnancy. As a matter of fact such was the state of matters in this case.

"In Case XIX., when the fetus was found it was only about two and one-half inches long, and had evidently been dead for some considerable time, for it was partly digested, whereas the placenta had grown to be quite as large as that of an intra-uterine fetation of four months, and it had been forming adhesions to intestine and omentum, giving rise to recurrent hemorrhages, for which the operation had ultimately to be performed.

"Similar appearances occurred also in Cases XXIV., XXX., XXXII., and XXXVII. . . .

"In looking over the records of cases which have gone beyond the full period of gestation, I find numerous illustrations which cannot be other than the growth of the placenta after the death of the child. No emphasis in any case is laid upon this fact, but the descriptions completely establish it. In a case mentioned by the first Mr. Samuel Hey, of Leeds, the patient went over the nine months with a false labor, and the child died. Three months after the mother succumbed from the sufferings involved in the carriage of the ectopic gestation. The child was found to be fully developed and showed no marks of decomposition. As the child had attained a size so unusual as to weigh nearly two pounds and a half, the cyst was supposed to be the right Fallopian tube, but the description makes it perfectly clear that it was the right broad ligament together with the tube. The placenta

in this case must have grown greatly after the death of the child."

The following opinions were given at a discussion in the London Obstetrical Society in 1887:

"Another point in which Mr. Tait was greatly interested was that indicated by Mr. Knowsley Thornton when he gave evidence to the effect that the placenta grew after the death of the fetus. When evidence on this point was first brought forward, it was one of the observations to which he (Mr. Tait) had listened with great hesitation, and he had several times written to this effect, for he could not believe it. But there could be no question now that it was so, that after the fetus died the placenta went on growing in at least a fairly large number of these cases."

In the same debate Dr. G. E. Herman <sup>2</sup> said: "There were two kinds of placenta met with in extra-uterine gestation: one kind was thin and spread out, having very extensive attachments, and this kind would evidently be very difficult of complete removal, and much more difficult at term than at the fourth month, as in the case related by Mr. Tait. There were other cases in which the placenta formed a thick, solid lump, thicker than a normal placenta, and closer in texture, looking not unlike a piece of hepatized lung. In this kind the vascular connection between the placenta and the maternal structures was much less extensive and the placenta could be removed without great difficulty.

"He had exhibited to the Society at its meeting on June 2d, 1886, an extra-uterine fetus and placenta which he had successfully removed. In that case the placenta was of this kind and its removal was easy. The placenta now shown of Dr. Champneys' case presented the same characters, and he gathered from the paper that it was so loose that it might have been easily removed.

"Mr. Knowsley Thornton had exhibited to the Society a fetus and placenta which he had removed with success, and the condition of this placenta was similar.

"So was the one exhibited this evening by Mr. Doran, and there was another in the museum of the Royal College of Surgeons which was like those already mentioned. Judging from the cases at present known to him, he thought this transformation of the placenta into a fleshy mass easy of removal took place after the death of the fetus. It would help greatly in treatment if we knew upon what these differences in the placenta depended, and could diagnose the condition of the placenta before operation."

Mr. Knowsley Thornton,<sup>3</sup> in a case which he believed to be tubal (the tumor reached nearly to the umbilicus), stated that "the fetus would appear to have died about the beginning of the fourth month, while the placenta continued to grow, and hence at the time of operation presented that peculiar solid mass which simulated a solid ovarian or uterine tumor."

Freeland Barbonr, in describing a frozen section of an extra-uterine gestation which had advanced to the middle of the fifth month, speaks of death having been caused by hemorrhage from "the continued growth of the placenta after the fetus had died,"

In his recent most valuable work on the "Surgical Diseases of the Ovaries and Fallopian Tubes," Mr. Bland Sutton expresses himself guardedly, saying: "In the majority of cases the fetus dies. When this event occurs at the fourth or fifth month there is reason to believe that the placenta may in some instances continue to grow, instead of undergoing atrophy."

It is evident from these quotations that, among several observers well qualified to judge, it is held that the placenta undeniably large as compared with that of normal pregnancy, found in cases of extra-uterine gestation where the fetus has died, is due to a growth of the placenta continuing after the death.

Yet for this statement there seems to me no adequate proof. Before one could make such a deduction it must be shown:

- 1. That the placenta in cases where the fetus is alive is distinctly smaller than in those where for some time previous to examination the fetus has died.
- 2. The part that so grows should be demonstrated microscopically by an examination of such cases as are indicated under 1.

This proof, however, has not been given, and it may simplify this part of the paper if I say that, so far as I have read, no proof has ever been brought forward.

It is an undoubted fact that the extra-uterine placenta is, to the naked eye, markedly different from the normal one. If we take the placenta as displayed in the more recent literature, we find that on section it is a dense, liver-like substance, resembling closely a blood clot hardened in spirit. So unlike normal placenta is it that one's first thought on looking at it is that it is some solid tumor.

I have personally examined, post mortem, four cases of extra-nterine gestation in regard to the question of this alleged growth of the placenta after the death of the fetus. One of these was a broad-ligament gestation, the others were advanced abdominal gestations. All were examined by means of frozen sections, and microscopical examination of the placenta was also made. These cases are now to be considered so far as they bear on our present inquiry.

I. Broad-Ligament Gestation.—This was a pregnancy which had developed between the lavers of the broad ligament, and was about the fourth and a half month. The fetus lay below in the sac, while the placenta was at the roof of the sac. This specimen is figured in the original paper by Dr. Carter and invself, and copied in Tait's "Ectopic Gestation" and Bland Sutton's "Surgical Diseases of the Ovaries and Fallopian Tubes." The fetus was quite fresh and not macerated, and seemed less advanced than one would have expected.

The placenta formed a firm mass attached to the extraperitoneal surface of the top of the broad ligament, and measured two and three-quarter inches (vert.) by two inches (breadth)

by three inches (antero-posteriorly).

On microscopical examination it is found to be made up of villi which in structure and arrangement differ considerably from the normal (Fig. 5). They are disposed very irregularly and are not nearly so numerous as in an ordinary placenta. The individual villi are compressed, so that the connective tissue of which they are formed is much denser than usual and the nuclei crowded very closely together. Only here and there are vessels to be found in the villi. A covering of a single layer of flattened epithelium can usually be traced round them, but sometimes this seems to have disappeared. These villi are embedded, not in blood spaces as in the normal

placenta, but in connective tissue of the ordinary areolar variety, in which are a certain number of fat cells, and which is here and there traversed by bands of unstriped muscular fibres. This connective tissue is sometimes compressed in the neighborhood of the villi, and in the same situation its meshes are often full of leucocytes. The blood vessels of this connective tissue are fairly numerous, but stand in no very traceable relation to the villi. But the most striking feature in the sections is the enormous number of hematoidin crystals scattered through them. These are evidently the result of old blood extravasations, and these have apparently occurred at differ-

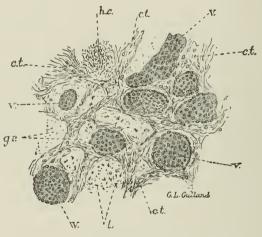


Fig. 1.—Placenta of extra-uterine gestation at 1% months.  $\times$  200. v, villus; c t, connective tissue;  $h^*c$ , hematoidin crystals; l, leucocytes; g r, granular debris.

ent dates, to judge from their disposition. There are brown masses, as large as peas, here and there in the preparations, entirely made up of crystals, large and small, whilst all through the connective tissue, but especially close to the villi, are smaller foci in which the crystals are usually small. All trace of red blood-corpuscles has disappeared from these masses, but many leucocytes are to be found in the smaller ones and at the margins of the larger masses, where also there is a certain amount of newly formed connective tissue. These extravasations have often displaced the connective tissue considerably from around the villi, and compressed villi are here and

there to be seen in the midst of the larger masses of crystals.\*\*

(Fig. 1.)

II. Case of Advanced Extraperitoneal Gestation.6—Here the woman was supposed to have gone beyond the time of normal pregnancy. The fetus had begun to decompose, but was fairly well nourished and not macerated. It weighed two pounds four onnces.

The placenta was attached to the anterior abdominal wall and inner surface of the peritoneum as follows: It measured five and two-fifth inches vertically, three and one-fourth

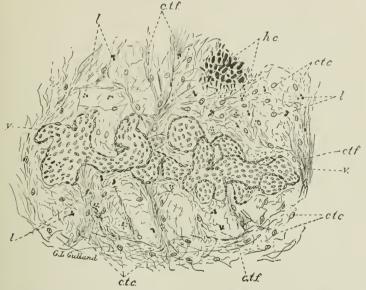


Fig. 2.—Placenta of extra-uterine gestation at full term.  $\times$  250. v, villus; h c, hematoidin crystals; c t c, connective-tissue corpuscles; c t f, connective-tissue fibres; l, leucocytes.

inches from side to side, and three and one-fourth inches antero-posteriorly (thirteen and one-half by eight by eight centimetres), i.e., was somewhat cocoanut-shaped. To the naked eye and touch it had a firm, spirit-hardened, liver-like aspect. On microscopical examination it was found practically to be connective tissue, with large areas of extravasated blood crystals and tortuous, distorted villi, with more

<sup>\*</sup> The description of the microscopical conditions is that of my assistant, Dr Lovell Gulland, who is an expert in this matter.

or less degenerated epithelium. More particularly it may be described as follows: In this case the placenta is formed almost entirely of the fetal villi and blood clot more or less organized; the maternal connective tissue takes little or no part in its structure. The villi are greatly altered, and are much more compressed than those in Case I., the alteration in them consisting rather in an extreme tortuosity and distortion of the villus as a whole than in any very marked pathological change in its individual elements. villus stems are generally isolated, and often widely separated from one another. They are embedded in connective tissue of a very low type, apparently the result of organization of blood clot, as numerous masses of hematoidin crystals are found scattered through it. Some of the crystals are very large, others very small; but they are not so numerous as a whole as in Case I., and the organization of the extravasations has gone on to greater perfection. Many capillaries are to be found in the more fully organized parts of the intervillous tissue, few in the less perfectly organized areas. Leucocytes are numerous, but they have not the same marked relation to the villi as in Case I., nor are the capillaries arranged with any relation to the villi. (Fig. 2.)

III. ABDOMINAL GESTATION: FETUS AT FULL TIME IN PERITONEAL CAVITY, WITH PLACENTA LYING BENEATH PELVIC PERITONEUM AND IN PART ABOVE BLADDER.—This specimen has not been specially described before. Abdominal section was performed by Prof. Simpson and a dead fetus extracted. On post-mortem the pelvis was removed by Dr. Freeland Barbour, to whose great kindness I owe the specimen.

The points of interest in the clinical history are as follows: Last menstruation, beginning of July, 1886; severe vomiting in September, with bloody discharge and apparent abortion (evidently a decidua); then a great deal of pain, persisting for weeks, beginning usually at 10 P.M. and lasting till 4 or 5 A.M.; in beginning of April fetal movements ceased, pain passed off, and abdomen diminished in size.

On physical examination a tumor is felt reaching from pelvis and right iliac fossa up to below left ribs; vertical measurement, eight inches. Head of fetus can be felt between examining hands immediately below ribs on left side. The

fetal limbs lie to front and right, and are felt distinctly. No bruit or fetal heart. On vaginal examination os uteri admits tip of finger; rest of examination unsatisfactory, but a round, elastic swelling is felt through roof of vagina (placenta).\*

This patient unfortunately vacillated between her medical attendants and was seen at various periods by at least three specialists. Symptoms of peritonitis and obstruction of the bowels came on after dilatation of the cervix with tents, and on May 22d Prof. Simpson performed laparatomy and extracted the child, now dead, from the amniotic cavity lying intraperitoneally. The cord was found separated about two inches from the navel. The placenta, which lay below, was not touched. Patient died at 10 a.m. on May 24th, 1887. The child weighed five pounds, measured twenty inches; skin peeling and bones of head soft. It was fully developed, and had no external malformation except right talipes varus.

When the pelvis was removed it was frozen and sawn

(Fig. 3) in sagittal mesial section.

The uterus (which measures three and one-half inches in length) lies retroposed, and the placenta is extraperitoneal, placed beneath the pelvic peritoneum and in the middle line, above the bladder. It is a rounded mass, measuring four inches in all its diameters. It has the ordinary liver-like aspect and is firm to the touch. Large veins are seen lying at its anterior and posterior edges. (Fig. 3.)

The placenta here, on microscopical examination, presents a much more nearly normal appearance than in either of the foregoing cases. In some places the villi are as closely packed together as in the normal placenta, and they are in most situations identical in appearance with normal villi, but here and there they are widely separated from one another. In this placenta also blood extravasation has occurred; the villi are embedded, not in connective tissue, but in blood clot. In this the outlines of the red blood corpuscles are still recognizable in places, though there are many fibrin threads running through it, and in some places, especially round some of the villi, dense layers have been deposited. There are many

<sup>\*</sup> Report by Dr. J. Hutchison, Dr. Keiller's resident physician, Royal Maternity Hospital.

hematoidin crystals also, all of large size, and found almost exclusively near the villi. There is little or no maternal connective tissue, except near the margin of the placenta, and in

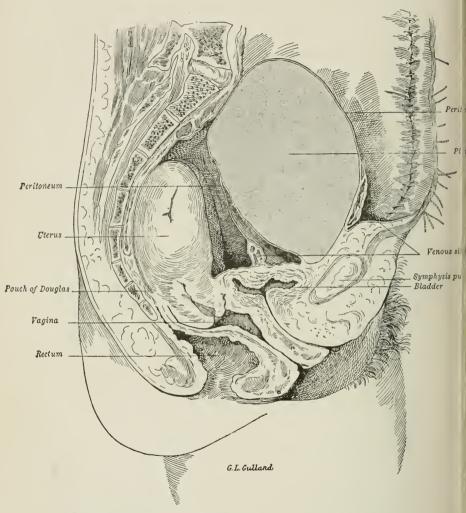


Fig. 3.—Sagittal mesial section of pelvis, showing extraperitoneal placenta (%).

the specimens examined the blood clot had nowhere as yet become organized. (Fig. 4.)

IV. Case of Full-time Intraperitoneal Extra-uterine Pregnancy; Placenta in Tube, Fetus and Amniotic Sac in

PERITONEAL CAVITY; LAPARATOMY BY DR. HALLIDAY CROOM AND DEAD CHILD EXTRACTED; MOTHER DIED.—This case will shortly be published *in extenso* by Dr. J. C. Webster, who has in the meantime kindly given me the following abstract of his work:

"Chief facts regarding nature of placental sac, placenta, and membranes in full-time 'tubo-peritoneal ectopic gestation':

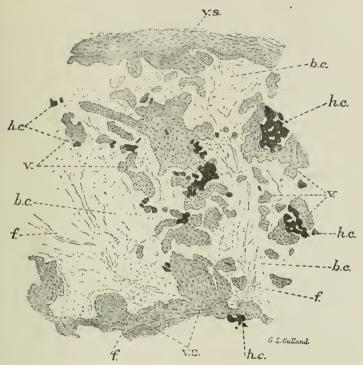


Fig. 4.—Placenta of extra-uterine gestation at full term.  $\times$  50. v s, villus stem; v, villus; b c, blood clot; b c, hematoidin crystals; f, fibrin strands.

- "1. Increase in size of Fallopian tube accompanying the growth of placenta, due to increase in connective tissue and muscle, chiefly in former.
- "2. The proportion of these two elements to each other is the reverse of what is found in the normal tube, the connective tissue now being greatly in excess.
- "3. The connective tissue is more compact for most part and the fibres in many places larger than in normal tube.

- "4. The normal arrangement of the muscle in two layers is completely altered, the fibres being found in groups, which run in various directions.
- "5. There is enormous enlargement of vessels opposite placental site, and the large sinuses are found chiefly in deep layers of the wall.
- 6. Trabeculæ containing vessels extend into placenta from the wall.
- "7. The epithelium normally lining tube no longer exists, no glandular layer like that found in uterine pregnancy being
- 8. No decidual cells are found anywhere in placental sac wall.
- "9. Placenta, at time of operation in its sac, was a discoid mass in left side of pelvis, extending above brim for about three inches.
- "10. After death (thirty-eight hours after operation) the shape became changed owing to blood extravasation into its substance, so that it was found as an irregular rounded mass, the greater portion of the placenta being destroyed.

"11. Sections of unaltered placental tissue resemble closely

those of normal placenta in uterine pregnancy.

"12. Villi are seen attached to sac wall.

"13. Trabecular bands of various sizes pass from sac wall into placental substance.

"14. In several places the placental structure is much altered by old hemorrhages, the villi being compressed and having lost their covering epithelium, in some cases having a sort of hyaline degeneration, but in most cases having become very fibrous, their vessels being obliterated and indicated by lines of blood crystals. Blood clots are seen in various stages of degeneration.

"15. The amniotic covering resembles that seen in an

ordinary placenta.

"16. The chorionic layer under the amnion is of dense fibrous tissue, from which villous stems project.

"17. Secondary (peritoneal) sac which contained the fetus is lined throughout with amnion which in many places is considerably wrinkled.

"It consists of a layer of cubical epithelial cells resting on

a thin layer of connective tissue, which is attached to fibrous layer—altered and thickened peritoneal covering of the various structures to which it was attached."

I have now to consider what explanation is to be given of the undeniably altered conditions of the placenta, especially in the first three cases, to which the present remarks apply. The ordinary belief is that the placenta has grown after

the death of the fetus.

Now, no statement has been made as to what part of the placenta grows. It cannot be the fetal portion, as the fetus is alleged to be dead, and there is no special maternal portion in advanced cases except the ordinary connective tissue, and no reason why this should grow when the active villi are dead. The increase in bulk of the placenta is brought about by organized blood clot, and we see no reason why the death of the fetus should cause this blood effusion. The apparent reason for this belief seems to be that the alleged primary extra-uterine gestation, where the villi were supposed to graft themselves on the peritoneum and where the placenta was necessarily stationary, seemed to call for this alleged growth of placental tissue after the death of the fetus as the only explanation of the unusual placental bulk. The primary grafting of villi on the free surface of the peritoneum is, however, a myth, and so with its discredit the dependent myth of the placental growth after fetal death must disappear.

I believe that the increased bulk of the placenta is produced only during the life of the fetus and not after its death.

In none of the four cases I record can one trace any special relation between the bulk of the placenta and fetal death. In Cases II. and III. the fetuses were well developed and near full time, and in Case I. the fetus was evidently not long dead.

The real explanation of the increased size and altered structure is much more probably as follows: We now know that there is no primary peritoneal pregnancy—i.e., no case known where the placenta has had the free peritoneal surface as its maternal portion. Advanced abdominal gestation has arisen primarily from a Fallopian-tube pregnancy where the placenta remains in the extraperitoneal tissue or, more rarely, in the tube. The fetus may be also extraperitoneal, or by secondary rupture may lie, with or without its amnion, in the peritoneal cavity.

In this extraperitoneal development of the placenta we have two things happening which do not occur in normal pregnancy. The extraperitoneal placenta (1) develops below a serous membrane which it separates from the subjacent tissues; (2) it is displaced usually either down and not extensively if the growing fetus lies above it, or up and extensively if the fetus lies below. It is this extraperitoneal burrowing and displacement that causes the blood effusion and

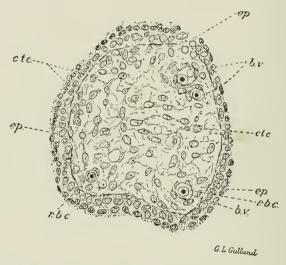


Fig. 5.—Transverse section of villus from placenta of a normal six weeks' pregnancy  $\times$  400 e p, double epithelial layer; c t c, connective-tissue corpuscles; b v, blood ves sels; r b c, red blood corpuscle.

connective-tissue formation leading to the larger bulk of placenta, and it can only happen during active fetal life. The alterations in the structure of the placenta, when extensive, cause the death of the fetus, and in proportion as these are less profound are the children healthy. (Fig. 5.)

In the last case (Webster's, No. IV.) the placenta developed in the tube, was not subject to displacement as in the first three, and thus had no great alteration in the structure of its fetal portion. Unfortunately its size could not be accurately estimated, owing to blood extravasation the result of operation.

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<sup>2</sup> Herman, G. Ernest: London Obstetrical Transactions, xxix., page

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<sup>2</sup> Thornton, J. K.: London Obstetrical Transactions, page 85. See

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<sup>4</sup> HART AND BARBOUR: Manual of Gynecology, first edition, page 271. Barbour does not speak of this growth in his original paper, Edinburgh Medical and Edinburgh Obstetrical Transactions, 1882.

<sup>5</sup>Sutton, J. Bland: Surgical Diseases of the Ovaries and Fallopian

Tubes, Cassell & Co., London, 1891.

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# THE NATURAL HISTORY OF PUS IN THE PELVIS.1

ВΥ

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(With plate.)

The subject to which I ask your consideration is a rather threadbare and hackneyed one, but nevertheless is so full of meaning and importance to the general practitioner, whose ability to recognize its presence must largely influence his success and reputation, that it is worth considering and reconsidering until there is a general unanimity of opinion, from a practical standpoint, both as to its etiology and manifestations. We who are operating constantly are brought into conflict at the very start with the theoretical gynecologist, without any other than book experience, who flatly contradicts us as to the correctness of our opinion because it does not agree with the suppositional pathology which finds solace

<sup>&</sup>lt;sup>1</sup> Read before the South Carolina State Medical Society, April 28th, 1892.

in opium and takes refuge behind a flaxseed barricade. We are met at the outset with the assertion that Prof. Hypodermic has demonstrated the real nature of the disease to be entirely different from what we suppose it, and consequently that our ideas concerning it are all at sea, and, if not at sea, are too radical to deserve any attention except after all the artistic effects of iodine decoration and flasseed maceration have failed, or perhaps now, in addition to these, an electric placebo. Pus in the pelvis long ago was recognized, together with its relation to diseases of the tubes and ovaries. Just here it is worth while saying that primary ovarian abscess can safely be said never to exist apart from tubal disease. About the only exception to this is in accidental complication of appendix disease and suppurative process, through inflammatory connection with the ovary. Here it is evident that abscess may occur through contiguity, but not primarily. In this assertion I take wide issue with the statement of Mundé that he has seen and operated for cases in which, though the tube was diseased, the disease was secondary, for I do not believe the assertion capable of proof. It has at least not been so in any of my own cases. This is, however, not important from a practical standpoint, unless from that of the treatment by puncture. If we could say that an abscess was entirely limited to the ovary, and that this accordingly could be located with absolute certainty and pronounced a simple cavity, the puncture through the vagina would not be illogical; but this, on the contrary, we are not able to say, and the advocates of cure by vaginal puncture base their results upon the happy termination of a few cases that did not end fatally only through lucky chance, and not from any operative experience that can satisfy any but him who wishes to be satisfied rather than to venture in shoals through which, by reason of his inexperience, he is unable to steer safely. A reference to the illustrations here presented will amply satisfy your Society on this point. But I have stepped ahead of my general subject to consider a division of it, and must go back for a little. The other name for pus in the pelvis, and the inflammatory conditions to which it gives rise, according as whether it is acute or chronic, is pelvic cellulitis, or, as Thomas calls it, para-uterine cellulitis. Concerning the inflammations of

this order it is worth while to quote Thomas. He says: "The existence of this variety of cellulitis—i.e., between the cervix and rectum, the cervix and bladder, and immediately beside the neck—has been denied by Bernutz, who sustains his position by abundant argument. Nevertheless, judging from clinical observation, one is inclined to side with the view of Nonat rather than with that of Bernutz." The inclination to side with the view of Nonat is with difficulty understood, when we consider that Bernutz's view is almost mathematical in its directness, and is reinforced on all sides by post-mortem examination, preceded by clinical history together with notes of treatment. The diagnosis of the disease, dependent on ovarian and tubal abscess, is dwelt upon with exceeding vividness, and the clinical history cannot fail to impress the veriest sceptic of its correctness, even though, as in the case of Thomas and Mundé, he is inclined rather to take the opposite view of the question. One important point in the diagnosis of the disease is the invariable lateral sulcus between the ovary or tube and the uterus, in spite of the supposed inflammation of the areolar tissue in this region. It does not seem to reach the perception of the clinicians; and they are scarcely this in a surgical sense, for they do not learn by surgery that if the disease to which they are constantly referring is a reality, the cellular tissue in these regions, being infiltrated, would not allow of differentiation of structure which is constantly mapped out. Now, if we consider the causes of pelvic peritonitis, such as abortion, badly treated miscarriages, and gonorrhea, we must see that the natural path of infection is by way of the Fallopian tubes via ovary to the peritoneum. Hence it is that we find frequently a complete closure of the tube at its fimbriated extremity, at which it is glaed to the ovary or some pelvic structure, while the abscess is confined to the tube entirely, unless rupture has taken place, when its limitations are a matter only of the merest chance. In those inflammations following the puerperium, and attendant upon cold or over-exertion, we must always find a subinvolution of the uterus, and this, in connection with the attendant uterine engorgement, must give rise to an edema of the structures, more especially in the uterus itself, while the attending pelvic engorgement is probably oftener

passive, due to pressure than to any active inflammation. If we consider the lymphatic supply of the pelvis we have an additional factor both to explain accidental congestion and rapid subsidence. Hence it is that in the purely accidental congestions—and I put these apart from the specific inflammations—the duration is essentially brief, while in the true pelvic inflammatory diseases the duration is essentially chronic; and the fact that such a disease has a history of chronicity is sufficient to put it outside the pale of a simple congestion originally.

I hold that the argument herein stated is unanswerable in the light of clinical surgical experience, and that the demonstrations of Bernutz are to-day just as unanswerable on any other supposition as at the time when he first promulgated them. A paper in The American Journal of Obstet-RICS for March makes the assertion that in forty per cent of all chronic cases of "pelvic cellulitis" firm, hard, indurated masses will be found, and that even in instances where patients were seen early. Now, here again we have the proof that the simple clinician, medically speaking, is not competent to pronounce infallibly on a surgical question. If the operating surgeon does not find pelvic cellulitis outside of ovarian and tubal complications, why is the physician capable to pronounce concerning it and its cure? Concerning the value of treatment in cellulitis, so called, Dr. Sanders goes on to say: "Were we able to treat and examine all cases of cellulitis, whether mild or severe in degree or kind, my belief is that fully fifty per cent would terminate in resolution, while the other fifty per cent, in spite of any means at our command, would go on to shortening of ligaments with thickening, encysted serous formations, abscess, or indurations." Granting for an instant the correctness of this opinion, does it not prove too much, in that it confesses that a condition over which an early treatment is instituted results in fifty per cent of failures, and that therefore either the treatment is faulty or the conception of the disease upon which it is predicated is false? In any other pathological condition a treatment giving only one-half cures would certainly be abandoned. It would be folly to deny the possibility of the occurrence of an abscess in the pelvic cellular tissue, for

there is no reason for giving absolute exemption to this tissue from what may occur in any other; but aside from the accidents of labor, and the inflammations arising at and about the head of the colon and the appendix vermiformis, we must conclude that these lesions are among the rarest known to pathology, and that the proof of this lies in the fact that they are never found on the operating table. They are cured only by the clinician who does not know them except symptomatically, or by the electrician who cures everything by that subtle fluid. When advocates of the pelvic-cellulitis theory rest their claim simply on theory and upon two isolated cases reported and referred to by Bernutz, surely we can claim that these two exceptions prove the rule and that their basis for argument is a most flimsy one.

Mundé in his late revision of Thomas says: "It has become the fashion of late for many of our most enthusiastic laparatomists to deny utterly the existence of such a pathological condition as pelvic cellulitis, except in a few rare instances after parturition, and to assume that all inflammatory exudations in the pelvis, with or without suppuration, are unquestionably intraperitoneal; that is to say, that all eases of pelvic inflammation proceed primarily from the Fallopian tubes, and involve secondarily the ovary and the adjacent peritoneum." We have here only to criticise the use of the term "enthusiastie" as applied to those operators who hold to the opinion so clearly enunciated above. The authors of this, in many respects, classic work should have used the word "experienced" to designate those who hold to the belief as above expressed. Who, I may ask, is capable of judging as to the existence or non-existence of pel vic cellulitis apart from tubal and ovarian disease, if not the operators who are constantly looking for it (cellulitis) and not finding it? The utter impossibility of locating tubal trouble in one spot and the so-called cellulitis in another that shall be distinctive is a conception so fantastic as to occur only to those whose experience is so narrow as to imagine it a possibility. Dr. Polk, of New York, in a late discussion, in answer to the claim of such nice distinction, most happily showed the fallacy and over-exactness of such diagnosis. He said: "We all know that the tendency of these purulent

accumulations is to work downward, so that sooner or later they reach the location referred to—i.e., the location supposed to indicate extraperitoneal effusion. This statement is not broad enough for the majority of us to occupy with Dr. Mundé, because our researches, made upon the operating table, utterly fail to demonstrate any such condition as that named [pelvic cellulitis]. The paper reopens all the old discussion about cellulitis and intraperitoneal inflammation. Every symptom and sign named as indicative of cellular inflamination is absolute evidence of physical and symptomatic intraperitoneal inflammation, and I am prepared to prove it on the operating table." This strong testimony of Dr. Polk -a man only capable of correct observations of truthful statements—can be reinforced by that of every other operator of like experience. A very late case in the experience of another, younger operator comes to my mind, and will serve to illustrate the variance of the old and the new way of looking at these pelvic inflammations. A woman, sterile, after ten years of wedded life, no miscarriages, no gonorrhea or history of menstrual accident, had a severe attack of pelvic cellulitis, with tense abdomen and vaginal tenderness and fulness, and had recovered after the use of poultices and anodynes. Some months after another attack supervened, and, having gotten out of easy reach of the cellulitis theorist, she came into the hands of an operator who made the diagnosis of tubal and ovarian disease. The swelling was low down, in fact was felt immediately the finger entered the vagina, just where we are told cellulitis holds sway. Operation was advised, but this opinion was so radically different from the former that Dr. Cellulitis was again called in consultation and overruled operation.

The case for a while progressed, but finally the patient, worn out by constant discomfort and suffering, made up her mind to take the surgeon's advice, with the resulting discovery of intraperitoneal disease complicating bowel, ovary, and tube, even to a more marked extent than supposed by the operator. The whole truth is that no operator, however great his experience, can foresee the extent and degree and complication of these adhesions. Where a diseased and distended tube will attach itself, is capable of no absolute pro-

FIG. 2. PYO - SALPINX AND OVARIAN ABSCESS, BOTH SHOWING

PYO - SALPINX. F1G. 1.



nunciamiento. We are told there is no peritoneum between the uterus and the rectum, but if a diseased tube and prolapsed ovary fall down into the cul-de-sac, and in addition the uterus is retroflexed and adherent, who shall tell where peritoneum ends and cellular tissue begins to inflame? We, as operators, know that a woman seems capable of almost indefinite suffering, and that many cases of chronic pelvic peritonitis last, and have lasted, indefinitely with the patient in a state of chronic invalidism. If she is able to rest and remain almost as inactive as a mummy, she is comparatively easy; but so soon as any effort puts the pelvic organs out of their splints and calls forth abdominal tension, that moment her discomfort begins and all the old suffering is lived over again. This is so much the case that some—and I regret to say there are specimens of such surgeons at home—advise one sort of treatment for the rich and another for the poor patient. For the woman who must support her family, operation; for the woman who can pay indefinitely for her attendance and blisters and poultices and consultations, there is only rest and chronic invalidism advised. I can only say, "This ought not so to be." If there is sufficient virtue in the surgery which we profess to love for the good it does, we cannot take its benefits away from the rich sufferer, and say for her it is dangerous because she can afford to be miserable. If this surgery is for anything it is to relieve suffering; and if it can put the poor woman, badly off for the bare necessities of life, upon her feet and make her useful to her family and life worth living, how much greater is the earnest of its success in patients whose means enable them to deal gently with themselves! But enough of sermonizing. Let me again quote from Thomas. He says: "I had often been struck with the great similarity between peritonitis and many of the cases of what, until enlightened by Bernutz, I had regarded as cellulitis, and by the fact that they occasionally ran into general peritonitis without any apparent emptying of the purulent collections into the peritoneal sac," etc. Then in the case cited post mortem: "The fixation of the uterus observed during life was due to lymph effused upon the pelvic peritoneum, and no trace of inflammatory action in the pelvic areolar tissue could be discovered as accounting for it"

(page 478). This author cites still further a case of fecal impaction treated for pelvic cellulitis. I have referred constantly in this paper to the opinions and illustrations of cases given in the volume before referred to, simply to show that, whatever may be the ground for believing in cellulitis as a pathological entity, this is entirely negatived by the experience therein recorded, by which the opposite condition of things is found to be present. Until the demonstrations of pelvic surgery made it clear that in chronic inflammations of the pelvis in women the tubes and ovaries are almost infallibly involved, everything went under the name of cellulitis, and everything from constipation to appendicitis was so called. Neither in this last disease are all the cobwebs of mythical pathology brushed away. The clinical observations of Bernutz should be printed anew by every gynecological journal in the land, until every general practitioner could have at his command and for his guidance the most wonderful clinical data, graphic, concise, and logically conclusive, ever collected. histories of the cases, selected with an eve single to ascertain facts, place at our disposal an array of facts that once appreciated can never mislead, and which must serve as a living teacher for all time. The histories of these cases point, except in those of specific inflammation of a virulent type, to a greater or less chronicity attended with repeated attacks of inflammation. There may be a primary attack of pain, offensive discharge, and abdominal swelling, attended by a high fever, which finally subside, leaving the patient in a semityphoid condition. This may persist for a while, and then subside when leakage ceases. If this is again renewed there are exacerbations of pain and attendant new adhesions. The menstrual function is apt to be deranged, more frequent and abundant than usual, while the pain on exertion is variable according to the extent and nature of the adhesions. are dependent upon the viciousness of the attack and the accidental relations of the tube with the bowel, and upon the position and size of the uterus. It is impossible to say, in many cases, how large the inflammatory mass is, or whether it contains pus. The bowel adhesions are a potent factor of size in the mass discovered bimanually. As to history in the diagnosis of these cases, we must look into previous labors,

instrumental and difficult otherwise, into miscarriages, into induced abortions, and to infectious diseases. We must have our mind fixed upon the fact that badly handled flexions, badly placed pessaries, and bad minor gynecology are at the bottom of much harm to the female pelvis. We must also consider that cases of acute suppurative disease are apt to follow virulent gonorrhea or puerperal infection, and that therefore all cases of supposed chronic cellulitis in which masses are to be discovered, laterally and posteriorly, are eases of chronic pelvic peritonitis with adhesions, in which they may be either uterine, bladder, or bowel adhesions, or all of these, and that pus in these may not be present at all. It is perfectly possible for acute adhesive inflammation to take place and no resulting suppuration be found in the pelvic basin; it may have even disappeared from the tubes, all except its cheesy débris. The advocates of various forms of treatment in this affection have promulgated them on account of their uncertainty as to the nature of the disease they are treating. Once let it be considered in the light of its true pathology, there should be no hesitancy about its removal. Pus anywhere in the economy is to be removed as early as discovered. In this connection I need not mention the various other diseases and conditions that may produce pus in the pelvis. Retained too long, all the phenomena of suppuration occur, and the result is a miserable life, rounded up by a miserable death, hectic, emaciation, general peritonitis, or phthisis. In the light of a wide experience and gratifying results I consider only one method of treatment justifiable—that of absolute, clean, early removal.

The reasons for this radical belief I shall justify by calling your attention specially to a few typical cases, and also to the great variety of complications following delay and imperfect methods. Such troubles are common throughout the land. Unfortunately many of these cases are treated for troubles that do not exist. For instance, the accompanying plate shows you two huge pus tubes with two large ovarian abscesses which were removed from a patient who was being and had been treated for nine weeks for typhoid fever. I found her delirious, greatly emaciated, with a pulse of 130. Her pelvis was completely filled with tortuous masses larger

than the uterus. She was dying from blood poisoning; had marked symptoms of approaching collapse. I urged section and removed four huge pns sacs; irrigated thoroughly and drained. She made a slow but perfect recovery. The pelvis probably contained sixteen ounces of pus. Sad it is that many of these cases are commonly treated by puncture or incision, followed by drainage from above or below. Vaginal incision with drainage, or section with stitching of the sac and drainage, are both unjustifiable procedures where an ideal method of treating an abscess can be practised. Fortunately, in the pelvis we can make a clean extirpation of all pus accumulations. In no other part of the body is it so. The evils of the practices alluded to were beautifully illustrated in a very recent case in my experience. She had had vaginal incision and drainage. Her condition was simply distressing. Drainage of a single pus sac may possibly be applicable to some cases if you are sure it is single, but if the pus accumulation is multiple, as they usually are, the surgery is imperfect, as but one pocket is evacuated. Drainage leaves a sequestrum of a cheesy, disorganized tube and ovary. This case also illustrates the mischief that may be brought about by tinkering. She was a healthy woman until intra-uterine treatment was applied. Acute pelvic inflammatory trouble followed and went on to the formation of a huge abscess. Incision through the vagina was made, with drainage. Reaccumulation of pus occurred, with pernicious anemia or pyemia. There was marked edema of both legs. Her face was puffy, urine scant. She was greatly emaciated and exhausted. Upon section I found the pelvis full, everything solid and fixed. She had been in two hospitals. The tumors filled the pelvis completely, extending above the sacrum; nterus was small and in front; the larger mass on the left side. I succeeding in removing both sides. Perfect recovery.

# THE TREATMENT OF THE PEDICLE IN ABDOMINAL HYSTERECTOMY.

### вv

# FRANKLIN H. MARTIN, M.D., Chicago, Ill.

"There is no royal road for the treatment of the pedicle in supravaginal hysterectomy," said Bantock, after reciting the record of some fifty cases comprising the first of his experience; "for, to sum up," he continued, "1. In one case the broad ligaments may be so long and the ovaries so easily raised out of the pelvis that it is a simple matter to include the whole in the loop of the Koeberle's serre-neud; but,

"2. In another case, while one ovary may be included in the loop, the other has to be ligatured separately; or,

"3. Neither of the ovaries can be included and both have to be secured separately; or,

"4. The tumor opens up one broad ligament, and you must probably enucleate it; or,

"5. The tumor descends so low in the body of the uterus that you have to separate it in a great measure from its peritoneal envelope before you can get a pedicle which you can transfix and keep out."

Where there is no royal road, we find, as a rule, many roads. Such is the ease in the treatment of the pedicle in abdominal hysterectomy.

Метнорs.—There are four well-defined, principal methods, two of which have been variously modified:

- 1. Intraperitoneal, or Schröder's.
- 2. Extraperitoneal, or Péan's.
- 3. Complete removal of the uterus with tumor, or Eastman's.
  - 4. Vaginal fixation, or Byford's.
- 1. Intraperitoneal Method.—This, as practised by Schröder, consisted primarily in constricting the pedicle with the Esmarch rubber band, removal of the tumor, paring down

the stump, taking from its centre a wedge-shaped piece of the bulky tissue, cauterizing the uterine canal, closing the stump by strongly sewing together the edges of the wedgeshaped incision, and finally sewing over all the peritoneal edges. The stitching of the stump was made secure enough so that all subsequent oozing was made impossible after the final removal of the rubber ligature. The stump or pedicle was then dropped, as is the pedicle after ordinary ovariotomy, and the abdomen closed.

This method has been modified by Olshausen, Charles T. Parkes, Zweifel, and Hofmeier.

- (a) Olshausen modified by securing the pedicle with a rubber ligature, and sinking the whole by sewing over it the peritoneum.
- (b) Charles T. Parkes modified it by ligating firmly with strong silk and cauterizing the tissues of the pedicle to firm, horn-like condition with the actual cautery over a temporary clamp.

(c) Zweifel tied the pedicle firmly with a strong multiple ligature of silk, securing it in this manner in several parts.

(d) Hofmeier carefully ligated the pedicle in its circumference without closing the cervical canal, and closed its abdominal end by covering with peritoneum. Drainage could take place into the vagina through the patulous canal.

Albert 1 and, independently and earlier, Goffe, of New York, employed treatment similar to Hofmeier's, with the addition of applying a capillary drain through the open cervices into the vagina.

2. Extraperitoneal Method.—The extraperitoneal method, as originally carried out by Péan, consisted in clamping the neck of the tumor with a serre-neud, including the broad ligament with the appendages, preventing slipping of the constrictors with pedicle pins, securing of the tumor, fixation of the pedicle in the lower angle of the abdominal wound, and closure of the abdominal wound closely down to the stump.

Hegar and Kaltenbach modified by employing elastic ligature for clamp instead of serre-neud.

Fritsch, Von Hacker, Wolfler, and Kelly modified by carefully securing the pedicle after Schröder's method and uniting

<sup>&</sup>lt;sup>1</sup> Wiener Med. Presse, 1891.

it in the abdominal incision extraperitoneally, but beneath the closed incision.

Van de Warker modified by making temporary fixation, like Péan, until liability to hemorrhage had ceased, when the wire was removed and the pedicle allowed to contract into the abdominal incision.

3. Complete Removal: Eastman's Method.—The broad ligaments are tied off, including the appendages, the vagina opened posteriorly by elevating it by means of an instrument constructed for the purpose, which is held by an assistant, the vaginal edges are ligated with long ligatures which afterward serve to invert the edges into the vagina, and the cervix and stump progressively cut away. The peritoneum is sewed over the inverted stump, the abdominal wound is closed, and the vaginal wound dressed as after vaginal hysterectomy. The mass of the tumor, if cumbersome, may be cut away, previous to opening the vagina, by putting on a temporary

rubber ligature.

4. Vaginal Fixation: Byford's Method.—In this method the broad ligaments are tied off, including the appendages, with multiple silk ligatures; the peritoneum is stripped down and an elastic ligature is placed low on the neck of the uterus and secured with pins; the tumor is cut away; the pedicle is made compact, clean, and bloodless by ligating the whole in three portions with three strong silk ligatures, removing from its centre a wedge-shaped piece of tissue, trimming its edges, disinfecting the canal, and afterward uniting the sides of the wedge-shaped incision with several silk ligatures in such a way as to effectually close and contract the stump. These last ligatures are left five or six inches long, and are subsequently used in inverting the pedicle into the vagina. The bladder is carefully separated from the uterus until the anterior wall of the vagina is reached. While holding the stump in the palm of the left hand, with the fingers in the posterior cul de-sac and thumb guiding, a blunt instrument is thrust through the anterior vaginal wall, the opening carefully enlarged laterally and longitudinally until it is large enough to admit the prepared pedicle. The ends of the ligatures attached to the stump are now put into the bite of a small artery forceps and carried into the vagina; an assistant

receives them, makes traction on them, until with the aid of the operator the pedicle is completely anteverted into the vagina. The peritoneum over the bladder is now carefully sewed to that covering the sunken stump, and the vagina with its pedicle is completely isolated from the peritoneal cavity. The abdominal wound is closed, a clamp is placed upon the ligated pedicle in the vagina, and it is dressed as after vaginal hysterectomy.

Polk, of New York, has removed the entire cervix, stitching the vaginal stump to the abdominal wound.

Florian Krug favors total removal of the pedicle after ligating its circumference, then draining through the vagina.

Meinert, independently of Byford, suggested putting the pedicle into the vagina through Douglas' cul-de-sac, but is not known to have accomplished it.

Analysis of Methods.—The intraperitoneal method has been followed by the most eminent operators in abdominal surgery. The principal arguments in its favor are strong and unanswerable. Martin, of Berlin, who practises it, states the chief of these points in about these words: "The object in all operations should be to leave the remaining normal parts in as near their original position as possible. They should not be distorted." According to this operator, the pedicle should be treated as is the pedicle in ovariotomy. The second point is that, no matter how short the pedicle, the operation may be completed. It is not necessary that it should be long enough to reach the abdominal wound. The serious objection offered to the first of the above otherwise unanswerable arguments is the fact that no method has been found for treating the bulky pedicle in hysterectomy so that it can safely be left in the abdominal cavity without fear of subsequent oozing or hemorrhage. On account of the subsequent shrinking of the pedicle it cannot with safety be ligated with silk. A permanent elastic ligature, while it prevents hemorrhage by following the shrinking pedicle, is objected to on account of its bulk, and the fact that the mortality following its use is higher than for the extraperitoneal method. The Parkes operation, in theory, seems well-nigh perfect and may ultimately result in solving

 $<sup>^{\</sup>rm 1}\,\rm The$  American Journal of Obstetrics, November, 1890 (later than Eastman's publication).

the problem. The mortality following its employment, however, is not low enough to prevent distrust in its use.

Besides the danger of hemorrhage, oozing, and sepsis from the uterine canal, in the ordinary intra-abdominal method, is the danger of the large pedicle forming attachments to intestines or omentum. This is obviated where the pedicle is covered with peritoneum. Thus it is a question whether the disadvantages of this method do not offset the one great advantage of leaving the organs in their normal relations.

The principal advantages of the extraperitoneal method with abdominal fixation are: 1. Shortening the time required to perform the operation. 2. Having the oozing of the pedicle without the peritoneal cavity. 3. Placing extraperitoneally all raw surfaces, so that intestinal and omental attachments cannot occur. 4. Having the pedicle where the ligature or clamp securing it can be tightened in case of shrinkage or hemorrhage.

The first of these advantages-viz., shortening the time of the operation—is not of so much importance, as a rule, if proper anesthesia is maintained and a bloodless operation performed. The advantage of having the oozing from the pedicle extraperitoneal is one of vital importance. We have all seen what quantities of fluid escape from a pedicle secured in the abdominal wound with a reliable elastic ligature or the most approved serre-neud, and how, in many cases, it wets through and saturates our dressings. We have all seen bloody oozing start up from the corner of such a pedicle, so that a tightening of the ligature or the clamp wire was necessary. What would become of our patient if this pedicle were left in the peritoneal cavity! Our death certificate, if we were too timid to reopen, would read: "From exhaustion or heart failure." The fourth advantage named, that of removing from the peritoneal cavity all raw surfaces to which intestinal or omental attachments might occur, is one of importance and cannot be lightly ignored. Our experiments in dog abdominal surgery, and our post-mortems in human abdominal surgery, demonstrate how prone an intestine or omentum is to rush in and cover up the raw surfaces. Thus, while there is no doubt that a much larger percentage of patients will recover, primarily, from the extraperitoneal-fixation operation than from the intraperitoneal method, nevertheless there are grave objections to the former operation which cannot be ignored. The principal of these may be summarized as follows: 1. Distortion of the pelvic organs and interference with their function by immovable fixation of the pedicle to the abdominal wall. 2. Pain caused by the dragging on the abdominal scar by the contraction of the attached pedicle. 3. Prolonged convalescence. 4. Unsightly scar.

If we are fortunate enough to get a long, small pedicle (which is seldom the case), none of the above complications need appear. What if our blessed statistics are saved by a primary recovery, if our patient must suffer more from the effects of the operation than she formerly suffered with the tumor? Constriction of the rectum, with oftentimes almost occlusion of the bowel; pressure on the bladder, with a long train of symptoms, ranging from a simple dysuria to chronic and permanent cystitis; severe pelvic pains; painful drawing upon a tender abdominal cicatrix by a too short pedicle; occasional suppuration of stump; and, finally, herniæ through imperfectly closed abdominal wounds, are a few of the complaints which reach the ear of the surgeon who has been addicted to this method of operating.

Thus, while with this procedure more cases will primarily recover than by the intra-abdominal method, we should expect a more ideal and less troublesome cure from the latter. A method which could utilize the advantageous points of both and eliminate the objectionable features is what we are seeking.

The Eastman method in certain particulars accomplishes this. It has, however, to my mind one weak point.

The method secures hemostasis and adequate extraperitoneal drainage of the stump without disturbing the relations of the other organs of the pelvis. The abdominal wound is closed and left undistigured. There is no stump attached to the abdominal wall which squeezes the bladder or interferes with the function of the bowels. There are no raw surfaces left in the abdominal cavity to form attachments with the intestines or omentum. The operation in favorable cases should be expeditiously accomplished. Thus it seems to possess all the good of the two older methods with few of their objections.

The objection to which I have referred is this: By removal of the cervix and all the true pedicle, the key of the arch of the pelvis is destroyed and a weak point is the result, which must in a certain percentage of cases result in vaginal prolapse or hernia. While I have had experience with this method in but one case of abdominal hysterectomy, my experience with vaginal hysterectomy convinces me that my objection is fallacious. Recovered cases after Eastman's method, with the single exception of an occasional prolapse or hernia, should be remarkably free from annoying after-symptoms.

Have my hearers who have been kind enough to follow me in this imperfect review of a complicated subject been drawn, as irresistibly as I have been in preparing it, to recognize the almost ideality of the last method we are to consider? Theoretically it is well-nigh perfect; practically it has stood the test superbly.

One objection might be offered to it (which would have a bearing in considering particularly reduced or weak patients), namely, the length of time required for its accomplishment. Brilliancy in operating, however, is no longer estimated by the shortness of time employed, the flourishes of the operator, or the amount of blood spilled, but by calm, painstaking thoroughness.

The operation in all its details does require more time than does the extraperitoneal method, but when it is completed it is much more satisfactory than either of the older procedures.

The advantages of treating the pedicle in abdominal hysterectomy by vaginal fixation may be summarized as follows:

1. Hemostasis is perfect. 2. The pedicle is fastened, extraperitoneally, without changing its location and without distorting other organs. 3. Vaginal drainage of the pedicle is perfectly provided for. 4. All raw surfaces are shut out of the peritoneum. 5. The key to the arch of the pelvis is preserved. 6. The abdominal wound is perfectly closed over a normal abdominal cavity. 7. Primary recovery insures a permanent cure free from harassing sequelæ.

## GYNECIC NOTES

### TAKEN AMONG THE AMERICAN INDIANS.

ВΥ

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## (With illustrations,)

The study of the natural history of disease is one of the highest duties the physician owes his profession. A knowledge of the influences of race and heredity, as well as of climate and other conditions, is important to the study. As the years go by the Indians, as a race, lose their distinctness; as savages, their characteristics. The time for investigating is passing. Never before have members of a savage race been taken as wards by an enlightened Government for the purpose of imparting its civilization on philanthropic grounds and by scientific methods. For these methods and their application there are no precedents, so serious errors are made and influences introduced worthy of careful study. Collective investigation of diseases as seen in the Indian race cannot fail to be of advantage to that race and to aid the service in many ways.

The life of the physician in charge of tribes at remote agencies is dull to a serious degree, unless he may interest it in investigation of medical matters connected with those in his charge. As the result of such investigation on my part, and to encourage like study by other physicians in charge of Indian tribes, the following notes are presented.

It will be seen that the facts and ideas are not mine alone; agents' and physicians' reports and other sources have been drawn upon freely. Still more valuable information has been obtained from summaries furnished me by the physicians of about half of the agencies in the service. With them is divided any merit attaching to this report, and my sincere thanks to them are expressed here.

Where in these papers I have used the expression "this tribe" or "this reservation" or "agency," the reference is to the Crow tribe, reservation, or agency, in Montana, at which I was physician until my resignation in October, 1889. Leaving the service voluntarily, but not without regret, I still feel a deep interest in it, and any correspondence concerning it, as correction or controversion of the following pages, will be appreciated.

## MENSTRUATION.

The age of puberty among Indians it is not easy to learn, since it is the custom of most tribes for the girls to marry before the menses appear. A curious result of this custom came under my observation at this agency. Since the girl menstruates after marriage and its attendant pleasures, the idea prevails that the menstrual flow is the result of sexual connection. In two instances Indian men have come with the complaint that their daughters in the boarding school had been tampered with, as their menses had appeared. Girls in the camp will conceal and deny the flow if it occur before they have been sold in marriage.

The early marriage and consequent sexual excitement, with the entire absence of modesty in Indian thought and conversation, would tend to cause precocious menstruation, and even in those girls who are in school till after puberty it occurs earlier than among white maidens of the same latitude. In a mission school on this reservation containing forty Indian girls, the mother-superior informs me that there are none above 12 years of age who do not menstruate.

The same is true of the Government school at this place. This latter school has been under my personal observation, and concerning ten girls in it, now menstruating, I am able to fix positively the age at which the menses first appeared. Indians, having no means of record, seldom remember ages of children accurately after the first few years. In the case of these ten girls, they were received into the school when quite

¹ This lack of modesty is well exemplified by the only name, constantly used in this tribe, for the vagina, ''ish'-ē-dě'"; ''ish'" meaning a sac or receptacle for ''ē-dě'," the male organ.

young, and the record made at the time is almost certainly correct. Three are half-breeds, seven full-blood Crow Indians. They menstruated first at the following ages: One at  $14\frac{1}{2}$  years; one at 14 years; two at 13 years (the two at 13 are not yet entirely regular); two at 12 years (one of these at 12 is not yet regular); two at 11 years (one is a consumptive and has not menstruated since); one at  $10\frac{2}{3}$  years (has menstruated four times at proper intervals).

From so few cases it is of course impossible to make reliable deductions. The average age for these ten girls is 12.21 years, while, according to the only American statistics (Emmet's), in the white race the average is 14.23 years. This early average agrees with my own opinion, drawn from other sources. It is also in accord with the opinion of such physicians in charge of Indians as have favored me with their views.

The duration of menstruation in the case of the above ten school-girls is usually two days, rarely exceeding three. They have been remarkably free from pain or other unpleasant symptoms on the establishment of the function or at its recurrence. I am quite sure full-blood Indians in this latitude do not menstruate so freely as white women, not usually exceeding three days.

The St. Ignatius Mission School, Flathead Reservation, Montana, contains three to four hundred Indian children, received into the school so young that the ages of the girls can be learned with considerable certainty. The sister-superior of that institution writes me that "in general the Indian girls begin to menstruate younger than the white girls, and those who at the age of 14 have not yet their menses generally die of consumption."

Capt. Pratt, of the Carlisle (Pa.) Industrial School for Indians, gives me this reply: "Upon the subject of menstruation, we find that girls from Southern tribes begin much earlier than those from the North. We have had one case at 7 years; more than half of those from the South begin before 13 years. Those from the North average with our Anglo-Saxon girls."

Menorrhagia frequently brings the woman to the physician

for treatment, otherwise I am not consulted concerning the function.

"Most readers are aware," writes Napheys in "Physical Life of Woman," "how toilsome are the lives of the Indian women among our Western tribes, and also how singularly easy and almost painless is their child-bearing. The pangs of travail are almost unknown to them. The cause of this has puzzled even physicians. We can tell them. It is because it is an inviolable, a sacred rule among all these tribes for the woman, when having her monthly sickness, to drop all work, absent herself from the lodge, and remain in perfect rest as long as the discharge continues."

In the Isle of Fate, New Hebrides, menstruation is called na-fu-lien, or separation; the women, during the flow, must live in a separate house. If a man becomes unclean by contact with her, he must be ceremonially purified.

"And if a woman have an issue, and the issue in her flesh be blood, she shall be put apart seven days; and whosoever touches her shall be unclean until the even" (Lev. xv. 19).

Pliny assures us that the presence of a menstruating woman blights vegetables, turns wine sour, and produces a number of other evils.

Of the Lower Brulé Sioux, Dr. Graham writes: "They are very superstitions in regard to menstruation; never have connection at that time, live in a separate lodge or house, never come near a sick person, believing, if they do, that the sick will die, even though it be their own offspring. The soiled clothes are not washed, it being considered very unclean and disgraceful to wash them. They are placed in a little roll, and each month the roll for that month is deposited in a different fork of a convenient bush or tree."

Of the Western Shoshones of Nevada, Agent John S. Mayhugh (1885) wrote: "Notwithstanding the general health of the Indian, there is no increase of population, for the reason that there is a tribal tradition or superstition governing the Indian women that they remain apart from their families, in a little house of their own, called the sick-house (hunne-garnee), for a period from twelve to fifteen days in each month. The Indian men could not be induced to touch or handle anything the women have used during these periods of retirement,

believing implicitly that all kinds of evil result if they violate this custom of their fathers."

Orthodox Israelites observe seven clear days after cessation of menstruation, making an average of about twelve days during which intercourse is prohibited (Lev. xv. 28).

Such similarity of customs and superstitions in nations so diverse is curious.

Once, I am told, the custom of going apart to a tepec built for the purpose, and spending the time in solitude and rest, prevailed among menstruating women of the Crow tribe. I am very sure only the barest vestiges of the custom remain at the present day. I find them living in the crowded lodge, going about the household work, and, I am told, even not repelling the sexual advances of the husband or lover.

As to the time of the menopause, I am utterly without data, since when a woman has passed 30 it is in very few cases possible to determine, within six or eight years, her age. If I should venture an opinion, it would be that the cessation is later than in the white race.

Of hysteria I shall speak briefly elsewhere. Uterine diseases may occur frequently; as in white communities which have not received a gynecological education, these seldom come to the physician. Uterine fibroids of small size I have found frequently. I have treated some severe cases of ovarian pain, and I am not infrequently asked relief from leucorrhea, often specific, however.

## MEASUREMENTS OF INDIAN GIRLS.

It seems to me the female form as Nature made it could not more nearly be found than in the Indian maiden, not yet deformed by work and innocent of stays or distorting dress of any kind.

A woman, eminent in the science of physical development and dress reform, furnishes me with the following as the measurements of the perfect female form: Height, five feet five inches; bust measure, thirty-one inches; waist, twenty-six and one-half inches; hips, thirty-five inches.

<sup>&</sup>lt;sup>1</sup> See letter from Dr. Asher, Israelite, to Dr. Playfair, p. 91 of the latter's work on Midwifery.

<sup>&</sup>lt;sup>2</sup> Mrs. Frank Stuart Parker, Chicago.

I have secured and tabulated below certain measurements of Indian girls.

MEASUREMENTS OF INDIAN GIRLS.

| No.                                  | Age. | Weight. | Height.  | Chest.          | Waist.          | Hips.           | Remarks.        |
|--------------------------------------|------|---------|--|-----------------|-----------------|-----------------|-----------------|
|                                      | Yrs. | Lbs.    | Ft. In.  | ln.             | In.             | In.             |                 |
| 1                                    | 25   | 112     | 5 1  | 314             | 29              | 35              | Nullipara.      |
| 2                                    | 20   | 150     | 5 5  | 37              | 32              | 37              | 66              |
| 2<br>3<br>4<br>5<br>6<br>7<br>8<br>9 | 13   | 130     | 5 4  | 33              | 30              | 34              | 66              |
| 4                                    | 25   | 165     | 5 2  | 37              | 33              | 37              | 6.6             |
| 5                                    | 15   | 126     | 5 2<br>5 4<br>5 4<br>5 5                       | 33              | 311             | 36              | 66              |
| 6                                    | 13¹  | 174     | 5 4  | 38              | 36              | 40              | Unipara.        |
| 7                                    | 18   | 140     | 5 4  | 32              | 30              | 36              | Nullipara.      |
| 8                                    | 15   | 130     | 5 5  | 34              | 29              | 35              | 46              |
|                                      | 18   | 145     | $\begin{bmatrix} 5 & 4 \\ 5 & 6 \end{bmatrix}$ | 33              | 29              | 351             | 6.6             |
| 10                                   | 20   | 170     | 5 6  | $35\frac{1}{5}$ | 32              | $36\frac{1}{2}$ |                 |
| 11                                   | 18   | 145     | 5 5  | 33              | $32\frac{1}{2}$ | $35\frac{1}{2}$ | 6.6             |
| 12                                   | 16   | 120     | 5 6  | 29              | 27              | 321             | 6.6             |
| 13                                   | 19   | 174     | 5 4<br>5 5                                     | 35              | 34              | 40              | Not learned.    |
| 14                                   | 18   | 140     | 5 5  | 321             | $31\frac{1}{2}$ | 36              | 6.              |
| 15                                   | 23   | 130     | 5  | 33              | 29              | 34              | Unipara.        |
| 16                                   | 17   | 110     | 5 2<br>5 3                                     | 30              | $26\frac{1}{2}$ | 31              | Nullipara.      |
| 17                                   | 16   | 130     | 5 3  | 31 <del>]</del> | 29              | 33              | 4.6             |
| 18                                   | 15   | 105     | 5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5 | $28\frac{1}{2}$ | 28              | $31\frac{1}{2}$ | 6.6             |
| 19                                   | 25   | 182     | 5 7  | 38              | 37              | 42              | Three children. |
| 20                                   | 18   | 135     | 5 2  | 32              | 27              | 341             | Nullipara.      |
| 21                                   | 12   | 105     | 5 2<br>5 2<br>5 2<br>5 1                       | 281             | 26              | 30              |                 |
| 22                                   | 17   | 145     | 5 2  | 33              | 31              | 36              |                 |
| 23                                   | 18   | 125     | 5 1  | $33\frac{1}{2}$ | $30\frac{1}{2}$ | 35              | 4.6             |
| 24                                   | 17   | 125     | $5\overline{1}$                                | 31              | 29              | 341             | 4.6             |
| 25                                   | 14   | 165     | 5 6  | 331             | 31½             | 371             | 4.6             |
| 26                                   | 19   | 150     | 5 4<br>5 4                                     | 32              | $30\frac{1}{2}$ | 36              |                 |
| 27                                   | 15   | 135     | 5 4  | 33              | 29              | 37              | " half-breed.   |
| 28                                   | 14   | 100     | 5  | 31              | 26              | 33              | 6.6             |
| 29                                   | 15   | 120     | 5 1  | 33              | 30              | 333             | 6.6             |
| 30                                   | 13   | 100     | 5  | 281             | 26              | 31              | 6 6             |
| 31                                   | 1.4  | 110     | 5  | $30\frac{1}{2}$ | $27\frac{1}{2}$ | 33½             | 6.6             |
| 32                                   | 14   | 90      | 5  | 31              | $26\frac{1}{2}$ | 30              | 6.6             |
| 33                                   | 13   | 85      | 5 1  | 271             | 221             | $29\frac{1}{2}$ | 6.6             |

Chest measure is the mean of inspiration and expiration. Waist measure is taken where belt is worn, at smallest part of waist, just above crest of ilia. Hip measure is around largest part of hips. All measures are taken over single "squaw dress."

A summary of the above table shows thirty-three girls; youngest, 12 years; oldest, 25 years; great majority about 17 years. Three only had borne children.

Averages are: Age,  $17\frac{1}{15}$  years; weight,  $132\frac{1}{2}$  pounds; height, 5 feet  $3\frac{1}{2}$  inches; chest,  $32\frac{1}{2}$  inches; waist,  $29\frac{2}{3}\frac{1}{3}$  inches; hips,  $34\frac{2}{3}\frac{2}{3}$  inches.

<sup>&</sup>lt;sup>1</sup> The girl and her father say 13 years. The child is 2 years old. The girl is apparently 17 or 18.

Greatest differences between chest and waist were in girls whose measurements were 37-32-37 and 31-26-33. Least difference was in girl whose measurement was  $33-32\frac{1}{2}-35\frac{1}{2}$ .

## FECUNDITY.

The relative facility of conception in the Indian I have not been able to establish statistically; with some exceptions, it is the opinion of physicians in charge of Indian tribes that they are less prolific than the women of civilized races. I am inclined to believe that they were, in the native state, a little less frequent in conception than white women; and I am well convinced, owing to the habits, in some tribes, of living apart during pregnancy and lactation, and the great prevalence in other tribes of prostitution and syphilis, that in their present state pregnancy occurs less frequently than among other races. Small families rather than large are the rule.

I have noticed especially the infrequency of twin pregnancies in this and other tribes. Concerning this the physician to the Tulalips (Washington) writes me: "If it [twin birth] occurs the fact is concealed, as they consider it a great disgrace and will kill one or both of them. The Indian compares a woman who has more than one child to a dog, a wolf, or other animal of that kind." The same idea prevails in tribes that have, as far as is known, never been associated with these. Dr. W. W. Graves, of Anadaska, I. T., speaking of twin births among the Kiowa, Comanche, and Wichita tribes, says: "Now comes a sad story. When two or more are born in a single labor our Indians let but one live. If a male and female, the latter is always destroyed at once; if both are girls, not infrequently both are killed; if both are males, there is sometimes a choice made; sometimes the sire kills both, as he considers that his wife is no better than a sow."

Among certain bands of Sionx, on the contrary, twins are sought after, as they are esteemed evidences of good luck to the household. On the Western Shoshone Reservation, in

<sup>2</sup> Mr. Tait, in his recent book, "Diseases of Women and Abdominal Surgery," says twin bearing is atavism.

<sup>&</sup>lt;sup>1</sup> Certain tribes on the Pacific coast are the exceptions. Dr. E. Buchanan, of Tulalip Agency, reports greater fecundity, families of eight to twelve children being frequent. Dr. Woodward, of Neah Bay Agency, writes me that "some squaws have twenty children."

Nevada, no case of twins has occurred for ten years. Among the Lower Brulé Sioux are two living women of triplets born to a woman of that tribe some years ago.

## ABORTION.

The prevalence of induced abortion in the different tribes varies from zero to infinity. In some tribes, as far as I am able to ascertain, the vice is unknown. Of the Western Shoshones of Nevada the physician writes me: "Abortion is practised not at all." In others, concerning whom my information is accurate and thoroughly reliable, it is practised to an enormous and incredible extent.

I have no explanation to offer as to why it is unknown in some tribes and largely practised in others, since the difference may exist between different bands of the same tribe, as in the case of the Sioux of Dakota. Its distribution and its method of procurement oppose a theory of its adoption from the whites.

Of the Pimas of Arizona, Dr. H. C. Yarrow embodied the following in his report to the Bureau of Ethnology for the year 1879-80: "The women of the tribe, well aware that they wil be poor should their husbands die—all his property being given away at his death, by Indiau custom—and that they will have to provide for their children by their own exertion, do not are to have many children, and infanticide, both before and after birth, prevails to a great extent. This is not considered a crime, and women of the tribe practise it. A widow may narry again after a year's mourning for her first husband; but, hving children, no man will take her for a wife and thus burden himself with her children."

Children, after passing infancy, are so light a burden to Indian prents, in this (the Crow) tribe at least—the tribe being subsisted by the Government—that I cannot think the fear of the buren, except in infancy, is a motive for infanticide. Indeed, sace a child draws full rations from its birth, it aids rather than hinders the support of the family. It is the burden of baring to term the child in utero, the care of it during lactationand the interference during a part of this time with the pleasers and profits of sexual intercourse, that prompt Crow women to procure abortion with great frequency. The

extent to which it is practised I may suggest by introducing the statement, which I have reason to believe is correct, of a Crow woman, about 45 years of age, known to me, who says she has had produced upon herself thirty-three abortions; as they are procured at a very early stage of pregnancy, this is easily possible. I may safely say it is practised in this tribe to an extent unequalled among any civilized people. Of the Apaches, a tribe remarkably chaste and free from syphilis, Howard Thompson, their physician, writes (1887): "It is more than probable that infanticide and criminal abortion are practised in the camps to a considerable extent."

In some tribes abortion is involved in much concealment and mystery, and the secret of potions and brews possessing abortifacient powers is believed to reside with the old midwives. My friend Dr. E. Buchanan, of Washington, informs me that with the Tulalips of that section a decoction is made of cedar sprouts, hops, barberry, and other ingredients.

The methods, however, in use in almost every tribe in which abortion is practised is killing the fetus and inducing uterine contractions by external violence. As usually applied, this is technically termed "tramping." The pregnant woman lies upon her back, and a heavy squaw, upon her knees, mounts the belly and walks thereon till the uterus and adjacent organs have been subjected to most brutal bruising. This treatment for other ailments I have seen applied frequently. Sometimes the milder treatment of thorough kneading with the fists will be effective. In some tribes a board is placed acrost he pregnant belly and a squaw sits heavily upon eitherend. Capt. Clark, in his work on Indian sign language, assers that it is produced among the Arapahoes by the pregnant roman throwing herself violently upon the pommel of the saddle or across a log.

In this connection it may be remembered that in the who are subjects of syphilitic taint—of whom there are nany—and in those with whom abortion has occurred till the habit" is formed, its procurement is easy by any method.

#### LABOR.

It is my purpose to avoid the ethnology of medicie among the Indians, so in treating of labor among them I hall confine myself to stating briefly the practice in childbirth of some of the tribes.

It is rare for physicians practising among Indians to be called to attend the women in parturition. The reasons for this are two: first, the Indians look upon childbirth as a



Fig. 1.-Manner of carrying child on the march.

physiological process, for which Nature is competent without skilled assistance; second, a sense of modesty forbids the attendance upon the female in labor of any male, white man or Indian, physician or layman. This native modesty, this womanly shame concerning all matters pudendic, is found in every race, savage and civilized. In passing I may say,

never has this reserve yielded so much as it has to the demands of science in the hands of the gynecologists of this generation, and men of this specialty may well have a care that they urge not their demands without due occasion.

This antipathy to receiving assistance at the hands of the physician is overcome as the tribes progress toward civiliza-



Fig. 2.—Manner of carrying child on shoulder.

tion, and it is especially noticeable that half-breeds almost constantly seek the physician's aid, even in those tribes, Sioux and others, where full-bloods retain their antipathy undiminished. This is due in equal measure, I think, to decreased prejudice and increased difficulty in labor from infusion of white blood.

In posture in labor there is greater diversity among Indians than among the females of the white race, but the

position assumed by the larger number is kneeling or squatting, the same as assumed for defecation, with the thighs separated, the head resting on some object in front, hands grasping thighs or grasping the hands of some friend. The naturalness of this pose is evident when we consider that the accessory or voluntary forces exerted in parturition—the only forces, by the way, that can be influenced by posture—are the



Fig. 3.-Indian mother and child.

same as those constantly brought into play in defecation; and if the woman would to the best advantage "assist" the uterine contractions toward the expulsion of the fetus, we must have her assume that position habitually assumed in defecation, as the one wherein the accessory muscles act most efficiently in expelling the contents of the rectum.

Occasionally, as reported to me by Dr. Ambler Caskie, of Standing Rock Agency, Dak., they get on all-fours in true beast style as the head presses on the perineum—a posture which I fancy would, by ealling in the aid of gravity to antagonize uterine efforts, at least favor the integrity of the perineum.

It would be interesting, in this connection, to observe what posture in labor is taken by those animals whose mode of progress is at will upon two or four feet, and who upon "allfours" have the hips more elevated than the shoulders.

More rarely the orthodox supine or lateral, or in some cases prone or erect, posture is assumed, the Indian woman claiming great latitude in the matter.

In some tribes a special lying-in tepee is prepared, to which the pregnant female repairs at the time of labor. In others she goes forth from the tepee alone or accompanied by a native midwife, seeks some convenient stream, and, being delivered of her child on its bank, cleanses herself and child by bathing in its waters. These, however, are not the common methods, the family lodge usually serving, those not desired present being sent out during labor.

If a woman falls in labor while the band is upon the march she turns aside with one or two female friends and gives birth to the child; if a stream be near by she bathes self and child in it; the child is wrapped in the swaddling clothes, placed in the "bonnet," or bound to the board; the mother mounts her pony, the babe is carried by one of the friends, and the party hurries on to rejoin the column.

Few frontiersmen living much with the Indian tribes but have often seen this occur, and I have frequently had the circumstances minutely detailed to me. Before one measures by this practice the facility of labor among Indian women and its freedom from pain or danger, it is well to bear in mind the fact, which some perhaps do not know, that an Indian never grows too ill to accompany the march, or, rather, that when on the march Indians seldom halt on account of the sickness of one of their number, no matter how severe the sickness may be; and, in past days, for a single lodge to halt and allow itself to be detached from the band was to offer

<sup>&</sup>lt;sup>1</sup> "Frequently lie upon the stomach with knees flexed under abdomen" (Dr. J. J. Best, Fort Berthold, Dak.).

<sup>&</sup>lt;sup>2</sup> "Position generally standing" (Dr. A. Wilgus, Yakima, Wash.).

itself an easy prey to some hostile party always hovering near.

So deeply established is this custom that in my own experience within two years past I have known several deaths to occur while Indians were on the march from distant parts of the reservation to the agency for Government rations. In such cases the bodies are carried on to some convenient camping place where a burial scaffold can be erected.

It is universally admitted that labor is easier, quicker, and safer with savage than with civilized women, and my experience confirms this. Still, difficult and protracted labors occur. As illustrating this and some other points of interest, I will relate the following case occurring in my practice about a year ago:

A young woman, pregnant with first child, fell in labor. Three days later the band came to the agency, some forty miles from their home, and she was brought with them. On the fourth day of labor, the child not having been born, the girl's father sent for me. With an interpreter I went to the tepee. I at once bared my arm to make an examination. The woman, by a slit in the dress, bared her belly above the pubes and submitted it to me. She was half-recumbent on some quilts. A small round hole had been dug in the earth beneath where her breech rested, for receiving the waters; they had, I was informed, come away some hours before. When, however. I separated her knees for the touch, she objected, crying, Cow-eke, cow-eke—"It is bad"—and put the knees firmly together.

I explained that probably the child was crosswise and it could be delivered and her life saved only by putting in my hand and turning it right (she was having severe pains and was considerably exhausted); at any rate, that I could not help her at all nuless she let me put my hand where I chose. This was all very carefully explained and chloroform offered to prevent any pain. She still firmly said, "No!" Later in the evening I sent another interpreter to place the matter before her. The result was the same. After night I visited her again with an Indian interpreter (the former had been a negro), but with no better result. She said she had rather die than submit.

Late the next day a messenger came for me; she was suffering greatly, about to die, and had agreed for me to "take the baby out." The camp was a mile from my office. When I reached it she had just been delivered of a dead child and after-birth, both of which had been removed from the tepee before my arrival. A wide and accurately adjusted binder covered the empty belly. The next day they came again for me. She was passing much matter and was in a bad way. I gave a sublimate vaginal douche. Her modest preparation for this was to take bits of quilt and cover thighs and lips of vulva, leaving only the aperture exposed. After a short septic fever she made a rapid recovery.

Their modesty would not be so striking were it not that, almost to a woman, the females of this tribe are prostitutes and for a consideration will admit the connection of any man.

The digital examination is not only not allowed the physician, but is rarely practised by the native midwife; and Dr. Joseph Graham, in charge of a Dakota tribe, plausibly suggests that "in this is to be found the explanation of the marked absence of puerperal fever and other puerperal diseases due to infection, though they are surrounded by the vilest hygienic and sanitary conditions."

The small amount of assistance rendered by the native midwife or some friendly squaw, and the treatment of difficult labors, are very similar in the various tribes.

It is universally the custom for the midwife to kneel behind the suffering woman, and, passing both arms around her, lock the hands above the fetal tumor and press it firmly downward. Sometimes the same is done by gradually tightening a strap or wide belt passed around the belly.

In difficult or slow labors among the Sioux of Sisseton Agency, writes Dr. N. McKitterick, the "shaking" process is often resorted to. The patient is slung on the back of some strong woman, who walks about the room, "shaking" her severely, the object being to shake it out. In other tribes the woman is suspended by passing a rope under her arms and over the poles at the top of the lodge. Among the Cheyennes, it is said, she is suspended by the wrists, a squaw seizing and compressing the uterine tumor, endeavoring to "squeeze out' the child.

Dr. J. M. Woodburn, Jr., Rosebud, Dak.

Physicians are not infrequently called to remove retained placenta, this being the most frequent difficulty connected with labor.

In most tribes the cord is not severed till the placenta comes away. Dr. A. P. Fitch, of Yankton, Dak., gives an example of the prevalence of this custom: "A woman gave birth to a child at 6 p.m.; at 10 a.m. the next day I was called to remove the after-birth, the child remaining attached to the cord during the entire time, the fear being that the woman would bleed to death if the cord was cut before the placenta came away. I removed the placenta; the woman got up at once and, shaking herself, walked over to the other side of the tepee and sat down as though nothing had happened."

The native method of assisting the delivery of the placenta when retained is worthy of notice as casting light on the origin of a method lately associated with the name of Credé. Indians of almost every tribe use some method of external

compression of the uterus.

Dr. T. A. Coskery tells me that, "if not expelled by the natural forces, the placenta is driven out by a bandage around the body pressing the womb, and this bandage is gradually tightened until effective." Dr. Chattle, of Pine Ridge, Dak., informs me that, among another band of Sionx, "as soon as the child is born the woman is bound tightly around the waist to expel the placenta—a crude method · Credé."

A binder is applied, more or less skilfully, by every tribe. The cord is cut or torn, sometimes with a good deal of ceremony, and left alone or tied with a sinew or with itself. Both cord and placenta are classed among the great number of charms or fetiches reverenced by Indians, and they are disposed of in an especial manner or preserved for use in their incantations. The bit of cord sloughing off may be tied in a rag and worn as an amulet around the baby's neck.

There is no defined lying-in period after labor with Indian women. They may continue with the march, or, if in camp, may at once bathe themselves in an adjacent stream and go about household duties. An Apache woman delivered by the agency physician of Anadarka, I. T., the same evening walked some distance to the river to go swimming. An Absaroke woman, delivered two miles from my office, came the next

morning to my office, walking and bearing the babe on her back, wading an icy river on the way.

While the practice of getting about at once is not unusual, yet the custom in the Crow tribe, with which I am familiar, and others of which I have information, is for the woman to remain a few days an "invalid," reclining most of the day and sleeping at night propped in a half-sitting posture, that the discharges may flow freely and not clot—so she may "drip," as she expresses it—being relieved, during these days, of the household work.

(To be continued.)

## THE URETERAL CATHETER.

BY

HOWARD A. KELLY, M.D., Professor of Gynecology and Obstetrics in the Johns Hopkins University.

(With four illustrations.)

In spite of my efforts to draw the attention of the gynecological profession to the uses of the ureteral catheter, this valuable instrument does not yet seem to form a part of the regular armamentarium of my fellow-specialists. That there are difficulties in the way of its employment I readily acknowledge. It is a delicate instrument, requiring practice and tact for its successful use. An amateur cannot be shown how to use it with the same facility as the Sims speculum or the uterine sound, and even with the greatest skill success is not always the rule.

These difficulties one would think would, however, only prove incentives to the acquirement of that practised manipulation which promises its possessor so much. The acquisition of the skill necessary to introduce a eatheter into the ureters, on the part of gynecologists in general, would just as surely entail the conquest of the field of renal and ureteral pathology as part and parcel of the gynecological field.

I will not here again dwell upon the numerous and important differentiations between bladder and kidney, and between right and left kidney diseases, thus to be made, but speak simply of a few improvements which I have made in Pawlik's valuable instrument, securing finally what I believe to be a perfectly satisfactory ureteral catheter.

The catheter thus made is a slender metal tube, thirty centimetres in length and two millimetres in diameter. At the end which is introduced into the ureter it is slightly curved for two centimetres, and terminates in an olive-shaped point 1.5

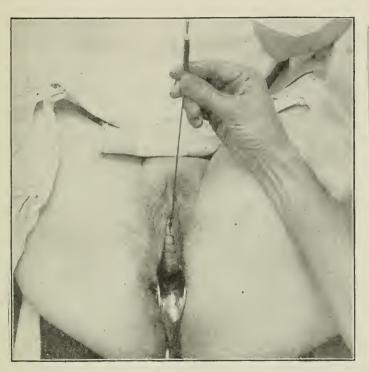


Fig. 1.-Kelly's ureteral catheter.

Fig. 2.—The patient in position for catheterization. The bladder has been distended with six ounces of normal salt solution, and the posterior vaginal wall is retracted by Sims' speculum. The operator is now engaged in seeking the right ureteral orifice. His right hand is seen in the picture grasping the ureteral catheter, the point of which lies within the bladder turned forward. The little eminence made on the anterior vaginal wall by the pressure of the catheter at this point is shown in the picture.

millimetres in diameter. Any further diminution of the size of this point renders it liable to pierce the bladder in the attempt to catheterize the ureter, while if it is larger it is diffi- Fig. 1 cult to introduce into the ureteral opening.

I found that the long slit of Pawlik's catheter, which lets





the urine into the catheter, would frequently catch and cut the mucous membrane of the urethra as it was being carried into the bladder; I have replaced this in my own instrument by several perforations in a little gutter countersunk on the concave side of the shaft near the point of the instrument. The opposite end of the catheter at the handle is provided with a lip curving downward to facilitate the discharge and collection of the urine in a finely graduated tube. During the introduction of the catheter this end of the tube is plugged



Fig. 3.—The catheter introduced into the left ureter. The direction of the catheter is well shown. The catheter has been assisted by the finger in the rectum, over the brim of the superior strait. The urine as it discharges is collected in the minim graduate for qualitative and quantitative examination.

with a short metal rod, otherwise the urine would continually escape from the bladder while the orifice of the ureter was being sought. This little rod is attached by a fine chain to the catheter to prevent its being lost. I have placed a fixed metal handle four centimetres from the end of the instrument, six centimetres in circumference, and flattened on the side toward which the point is directed. This enables one to conveniently hold and direct the instrument in its introduction, and is better than the split movable wooden handle previously in use.

The catheter thus constructed is altogether a convenient instrument, and its introduction one of the most delicately pleasing gynecological manipulations. I often thus introduce two catheters at the same time—one into each ureter—when, by hanging a little test tube on the end of each, urine is simultaneously collected from both kidneys.

The figures show the last case thus catheterized in the Johns



Fig. 4—Catheters introduced into right and left ureters and collecting the urine from right and left kidneys at the same time. At the end of the catheter to the left, which is introduced into the right ureter, a drop of urine is plainly seen about to fall: this urine has thus passed directly from the ureter into the catheter, and so out of the body. traversing without entering the bladder.

Hopkins Hospital. In one a single catheter is introduced; in the other both are draining the kidneys through the ureters simultaneously. The angle between the two is 59°.

The catheter here described is made by Mr. Willms, of Baltimore.

### APNEA NEONATORUM.1

BY

F. E. WAXHAM, M.D.,

Professor of Diseases of Children, Laryngology, Rhinology, College of Physicians and Surgeons, Chicago, Ill.

(With one illustration.)

LITERALLY, the term signifies without breath in the new-born. The condition is one that is usually styled asphyxia of the new-born. In the normal condition respiration becomes established immediately after birth and the infant announces his arrival by a lusty scream; the color of the surface is a bright red and the movements are strong, active, and vigorous. When born in a state of apnea, or asphyxia, however, all of these conditions are reversed. Instead of the loud cry the infant lies quiet, limp, and motionless, and apparently dead. The color may be pale, but generally it is blue or livid, with evidence of great venous congestion. The heart may pulsate feebly and irregularly, but there is no attempt at respiration or it is shallow, irregular, imperfect, and infrequent.

This condition may be induced by difficult and prolonged labor, prolapse of the cord, malposition of the infant (as in breech presentations), rapid and violent uterine contractions—indeed, it may be produced by any condition interfering with the free circulation of blood between the mother and the infant. Under these circumstances the surface is livid, often blue, and the lips may even be of a dark purple or almost black.

In those cases where apnea is attended with pallor the condition is not due to obstruction to the circulation, but to insufficient muscular effort with which to carry on the process of respiration.

<sup>1</sup> Read before the Gynecological Society of Chicago, December 18th, 1891.

Ill health of the mother during gestation, multiple pregnancy, premature birth, concealed hemorrhage from placental detachment previous to delivery, and exhaustion from the presence of some blood dyscrasia, especially the syphilitic, are the common causes.

When death occurs the lungs are found to be in a state of collapse. If there has been no attempt at respiration the collapse of the lung tissue will be complete. Those portions involved present a dark violet or blue color of the surface and are depressed below the level of the normal tissue; there is absence of crepitation, and the parts are smooth, soft, and flaccid, like muscular tissue. The cut surface is smooth and no air bubbles can be pressed out, and, furthermore, the unexpanded portions can be readily inflated.

In those cases attended with pallor of the surface, and where the condition is due to deficient muscular power, we must be content with gentle attempts at stimulating respiration, as in rubbing and blowing upon the surface of the body, dipping the body alternately in warm and cool water, and the like. Our chief measures will be general stimulation, proper and frequent nourishment, and artificial heat. Where an infant is born in an evident state of asphyxia, where there is absence of respiration, the surface of a livid or purple color, other and more vigorous measures must be resorted to.

It is unnecessary for me to refer to the usual methods of resuscitation—as mouth-to-mouth respiration; holding the infant alternately with the head down and up; holding the body of the infant on the hands and alternately bending it forward and backward. These measures are all too well known to require description and will often be successful, but it occasionally happens that, in spite of our most vigorous efforts, we are unable to resuscitate the infant.

For the purpose of more promptly and efficiently inflating the lungs certain instruments have been devised, to which I wish to call your attention. These instruments were first devised by Dr. O'Dwyer for the purpose of resuscitation after drowning, and also for more easily and effectively carrying on artificial respiration in case of opinm poisoning, but have been modified so as to be applicable to the treatment of the condition under consideration. The instruments consist of

laryngeal tubes of various sizes (Fig. 1), which are attached to a long, hollow tube of sufficient length to project from the mouth when introduced. Attached to a stopcock projecting from the side of the tube is a piece of rubber tubing that leads to a small bellows that is worked by the foot.

The tube is introduced into the larynx, the finger placed over the opening at the end of the tube, and the bellows

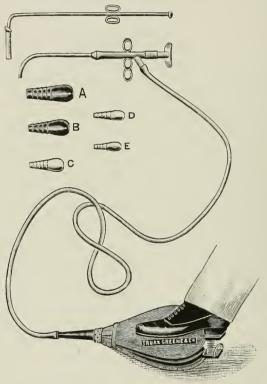


Fig. 1.

pressed upon, which inflates the lungs. The finger is now removed and the chest walls compressed, which forces the air out. In new-born infants the smallest tube is employed, and it is better not to attach the bellows, but to inflate by placing the lips to the tube and blowing into it, remembering that the capacity of the infant's lungs is very much less than in the adult. If we do not bear this in mind we may cause rupture of the air vesicles and produce emphysema.

As the attachment of the bellows is objectionable in the treatment of apnea, I have substituted a simple tube that answers every purpose. The laryngeal portion of the instrument is smaller and also longer, that it may be introduced through the glottis and into the trachea, while a rim or head prevents the escape of the air from the sides of the tube. The advantages of this method of performing artificial respiration over tracheotomy or the ordinary methods becomes at once apparent.

In cases of opinm poisoning nothing can be more satisfactory than forced artificial respiration performed in this manner.

In ordinary cases a patient is bruised and battered in such a manner as to produce marks which last for days, and much unnecessary suffering results, while the physician and attendants become entirely exhausted in the desperate attempt to keep up the respiration. By this method artificial respiration can be easily established and maintained for hours at a time, without exhaustion on the part of the physician or suffering to the patient.

240 Wabash Avenue.

#### HABITUAL ABORTION.1

BY

E. S. McKEE, M.D., Cincinnati, O.

By habitual abortion the writer wishes to be understood to mean those cases for which we have no better term. True, there is a cause for every abortion, but this is sometimes so obscure or so slight, or our perceptions so blunt, that we fail entirely to discover it. Some women are so high-strung, nervously, so thoroughly hyperesthetic, that the slightest trifle, to which no consideration could possibly be given, is

<sup>&</sup>lt;sup>1</sup> Read before the Cincinnati Obstetrical Society, April 18th, 1892.

sufficient to induce an abortion. These women find it very difficult to reach full term without encountering something which will cause this accident.

Habitual abortion is a term severely criticised by some as unscientific, yet there are cases for which no more fitting designation is at our command. Thomas' explains these cases on the theory of a hyperesthetic condition of the uterine system of nerves. It has been the experience of every one largely engaged in obstetric practice that some women are unable to carry their offspring to full time. They again and again bring forth still-born children. Burns mentions Schulzius as reporting a case where a woman aborted twenty-three times at the third month. Young reports thirteen abortions, the fourteenth going to term. Leishman says there are rare instances where we can only account for the repeated abortions by supposing that the uterus has contracted an inveterate habit.

Carpenter 2 speaks of certain women who, without special cause, miscarry over and over again, and it would seem to be explained to him by the existence of a special irritability of the uterine fibres. The sphincter of the uterus seems to be weakened, and when pregnancy ensues the least effort overcomes it. This has been called laxity of the fibres of the cervix. This irritability of the uterus determines the premature appearance of contractions, the cervix yields, the membranes rupture, and miscarriage occurs without other explainable cause than this excessive irritability of the uterine fibres.

Routh alludes to paternal albuminuria as a cause of recurrent abortion, while cardiac incompetency was believed to be an important reason by Dr. Handfield-Jones. A failing left ventricle leads to sluggish circulation in the uterus, and, as a result of this, to extravasation of blood between the membranes and the muscular walls of the uterus. In numerous cases good results followed the administration of cardiac stimulants. Chronic lead poisoning is found by Schuhl to cause frequent abortion. It does not act so prejudicially when the male is affected as when the mother is the victim. In seven cases of men with lead poisoning, their wives mis-

<sup>&</sup>lt;sup>1</sup> Small figures refer to Bibliography at the end of the article.

carried eleven times in thirty-two pregnancies. In three of these cases abortions took place in close succession.

Rest in bed is a most rational and quite successful means of treatment. A woman who shows a marked tendency to repeated abortions will be most liable to abort coincidentally with the menstrual periods. Hence, a few days before menstruation should begin, were she not pregnant, she should take to her bed and remain there until a few days after her period should have closed. Another good plan is to keep the patient in bed the greater part of the time during the second, third, and fourth months. Rest in bed, at least during the days corresponding to the normal menstrual epochs, is often necessary. Schuhl, in an exhaustive series of papers, recommends remaining in bed altogether until delivery.

In the chlorate of potassium we have a very valuable remedy in habitual abortion. Shoemaker, in his new edition of "Materia Medica and Therapeutics," says that it has been shown that chlorate of potassium, administered in fifteen-grain doses three times a day, is serviceable in preventing diseases of the placenta and thus enabling the woman who was subject to miscarriages to go to the end of her term. It appears to be valuable in preventing intra-uterine death. Coghill has found it useful in deficient oxygenation of the blood, especially in placental inadequacy. The drug was first recommended in this connection by Sir James Y. Simpson, who was its pioneer advocate where repeated miscarriage had taken place from fatty degeneration of the placenta. His theory was that an abundance of oxygen was supplied to the fetus through the placental tufts. He also believed that it was a means of arterializing the blood. The experiments of Davy and Stephens indicated to Simpson that an alkaline salt, when brought into contact with the blood, gave it an arterial appearance. O'Shanghnessy bas found by experience that it gives a bright scarlet color to the venous blood. Chemists tell us that it is improbable that the salt parts with any great per cent of its oxygen at the normal temperature of the body, yet the fact remains that by increasing the alkalinity of the blood its oxidizing function is augumented—as sea water, for instance, suspends more oxygen than common water

Fountain 6 ingeniously applied the oxygenating property of chlorate of potassium in the blood in evanosis from heart trouble. His results are reported as quite successful. Anemic patients improve in color under this drug. is an excessive accumulation of carbonic acid in the presence of inflammatory changes of tissue. In the presence of carbonic acid, nascent oxygen is formed from chlorate of potash, which may show how the inflammation is relieved and oxygen furnished the fetus. Quite large doses have been given by some. For instance, Bruce gave the remedy to the amount of one drachm daily, and in one case, on account of weakening of the fetal heart, gave two drachms daily. He reports its use in six cases of repeated abortion, and in all but one brought the children to term, and brought this one case to the eighth month. Keiller' had given the chlorate of potassium to the extent of several drachms per day, largely diluted, the patient using it as a common drink. He thought the result might come from the tonic power of the salt.

Inglis' reports a case where, after sixteen still-births, the seventeenth was born alive under this remedy. Cairn reported a case where a woman aborted five times. The chlorate of

potassium carried the sixth child to the sixth month.

Tardieus reports a patient, married six or eight years, who miscarried each year at about the sixth month. He gave two and one-half grains every three hours. His patient was in the worst possible condition and was obliged to remain in bed the whole period of utero-gestation, but the treatment was successful. Carl Braun in his recent work speaks favorably of the use of chlorate of potassium. It has also the recommendation of such distinguished teachers as Leishman, Barnes, Lusk, Fordyce Barker, as well as those of our own city, Drs. Palmer and Reamy having reported a number of cases in which it was successful.

I have used the chlorate of potassium successfully with several patients, one ease being especially interesting. She first came under my observation about ten years ago, being then 34 years of age. She had married at the age of 15, lived with her husband two years, and had two miscarriages. She remained a widow one year, remarried, and had eight miscarriages. These ten miscarriages occurred during the

fifth, sixth, seventh, and eighth months of utero-gestation, one only, the last, occurring as late as the seventh month. Two had occurred in the same year. Her husband was a fine, healthy, robust man, who gave an excellent history and showed no signs of disease. Her first husband, she said, was as healthy as her second. Her own health had been remarkably good for what she had endured. No history or evidence of syphilis could be obtained. Physical examination, to my surprise, showed no pelvic condition which might cause the recurrent abortions. She volunteered the information that one doctor who attended her said that the after-birth was nothing but a chunk of fat and took it home with him. The patient was found pregnant. Supposing the cause of these frequent abortions to be fatty degeneration of the placenta, she was placed, after consultation with Dr. Palmer, upon chlorate of potassium, fifteen grains three times a day, until the end of gestation, when a healthy boy was born. In about eighteen months she returned again, about three months pregnant. She was again placed on the chlorate of potassium. She took fifteen-grain doses, and for a time took as much as thirty grains three times daily. She was occasionally given tincture of chloride of iron, tincture of nux vomica, or bismuth, as the symptoms required. The course of pregnancy was watched; in due time the fetal heart was detected and noted at different intervals, and at term a boy was again

Fatty degeneration of the placenta is the most common of the diseases of this organ. Fatty degeneration is malnutrition. The same cause which would produce this in the heart, liver, or any other structure would occasion it in the placenta, as well as anything which retards oxidation. It frequently follows low forms of placentitis affecting cells of the decidua serotina. By the proliferation of connective tissue the maternal blood vessels are compressed, the villi of the chorion which dips into them become atrophied, and fatty degeneration occurs. Syphilis does not play so great a part in fatty degeneration of the placenta as some would have us think. It is a well-recognized fact that there is an excessive accumulation of carbonic acid in the presence of inflammatory changes of tissue. The other fact, that in the pre-

sence of this earbonic acid nascent oxygen is formed from chlorate of potash, may point, after all, to the immediate method by which relief is furnished. Whatever the *modus operandi* of chlorate of potassium—whether it acts as a tonic or is decomposed in the blood, thus directly furnishing an increased supply of oxygen to the fetus through the placental tufts; or whether it puts the blood in such a state that it can carry an increased quantity of oxygen, though this is unsettled and a matter of speculation—nevertheless we have the clinical fact with us that it has a direct beneficial effect in properly selected cases, *i.e.*, where there is fatty degeneration of the placenta.

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#### IN MEMORIAM.

## CARL SIEGMUND FRANZ CREDÉ.

BORN AT BERLIN, DECEMBER 23D, 1819; DIED AT LEIPZIG, MARCH 14TH, 1892.

In rapid succession death depletes the ranks of those who have taken an active part in the wonderful development of the medical art in the last thirty years. One of the most renowned members of the medical profession, a man with whose name are associated brilliant achievements and success, has ceased to be. To the whole medical world, to his many pupils and friends, the death of Credé will cause sincere regret and sorrow.

AMER, JOURN, OF OBSTETRICS

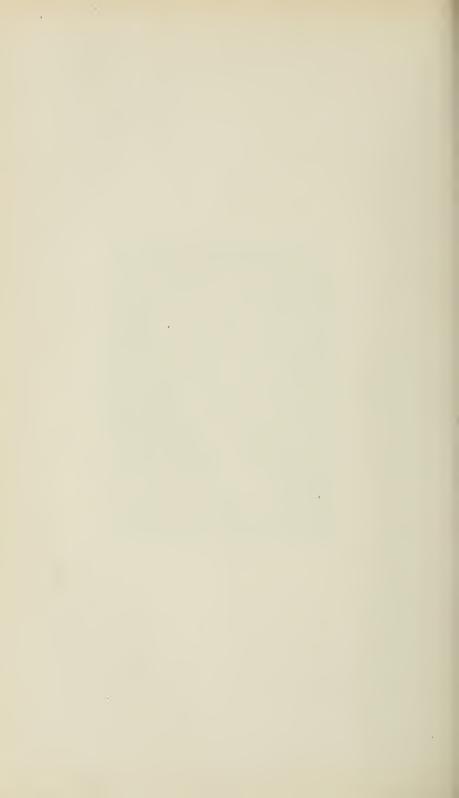
AND

DISEASES OF WOMEN AND CHILDREN,

JUNE, 1892,



Preve



Born in Berlin, December 23d, 1819, he obtained his medical education at the universities of Berlin and Heidelberg, receiving his doctorate in medicine from the University of Berlin in 1842. After continuing his studies for a few years in foreign countries, he returned to Berlin to become the assistant of Busch in the Berlin Maternity. This position he occupied for five years. In 1850 he became "privat docent" in obstetrics, and in 1852, when only 33 years old, he was appointed director of the Berlin School for Midwives and physician-in-chief of the lying-in division of the Charité.

In 1856 he accepted a call to Leipzig, where for thirty-two years he was professor of obstetrics and gynecology and the director of the Maternity Hospital connected with the university.

He devoted himself mainly to the specialty of obstetrics, always maintaining that the practice of gynecology would become less important in proportion to the improvements in the field of obstetries.

Credé was one of the ablest academical teachers in Germany. Numerous students have listened to his teachings, carrying away treasures of wisdom. Many now celebrated in their vocation, such as Fehling, Ahlfeld, Leopold, and Sänger, have received their training under his guidance.

In 1887 prolonged invalidism compelled him to resign his many and arduous duties; but even then he did not rest, but devoted himself to editing the Archiv für Gynäkologie, of

which he was the founder.

Credé's teachings bear the stamp of a genius; they have to-day the same vitality and force as when they were first published.

"Credé's method of expressing the placenta" has a world-wide reputation. It was made public in 1853 in his "Clinical Lectures on Obstetrics." At the present time, when the dangers accompanying the introduction of the hand into the vagina and uterus are more and more appreciated, the importance of a method which accomplishes the delivery of the placenta by external pressure, instead of pulling upon the cord or manual detachment as formerly employed, can better be understood.

Credé's prophylaxis of ophthalmia neonatorum has pre-

served the eyesight of thousands of infants. It has caused a marked decrease of the cases of so-called "congenital blindness"—a decrease found not alone in lying-in hospitals, but also noticed in the institutions for the blind. Before the investigations of Credé ophthalmia neonatorum was the most frequent cause of blindness.

His work, "Healthy and Sick Puerpera," is a most valuable contribution to the management of labor and of the puerperium. He advocates conservatism and prophylaxis instead of undue interference. He criticises the indiscriminate use of vaginal examinations during labor, and pleads for the employment of abdominal palpation whenever this is possible.

Together with Prof. Leopold, his son-in-law, he wrote an obstetrical text book for the use of midwives, of which a fifth edition has lately been published; and many are the monographs and papers which have appeared over his name.

The history of Credé's life is that of a man of great mental powers. His character was full of energy, and he at all times kept before his mind's eye the object which was to be attained.

The work which he has accomplished is permanent and will benefit many generations. His name will be added to those of Levret, Smellie, Hunter, Baer, Stein, Osiander, and Ritgen in the illustrious gallery of famous obstetricians.

Many owe to him life and health; many will cherish his name as that of a great teacher to whom they owe much of what they are. His teachings will continue in his works, and the medical art and science will keep his memory alive until history ceases to be.

Julius Rosenberg.

## CORRESPONDENCE.

THE USE OF THE "INCLINED PLANE."

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS, ETC.

Dear Sir:—In the last two numbers of your excellent Journal—which I have taken and possess from its initial issue—I find Dr. Coe (page 369) and Dr. Robinson (page 502)

stating their belief that the use of the inclined plane, as suggested by Dr. Emmet, was a new idea. Dr. Emmet says he has recognized the efficiency of the posture treatment for ten years, but he lays no claim to originality in the matter.

In a little book which I published fourteen years ago on "The Influence of Posture on Women," I repeatedly drew attention to the effect of position in causing and removing hypostatic hyperemia. Will you allow me to reproduce a few sentences which I then wrote showing the antiquity of the mode of treatment!

"The postural treatment of uterine hemorrhage is very ancient. In the Hippocratic writings it is mentioned, and a simple and effective way of raising the hips above the head is given. After recommending cold affusions and other remedies, the author writes: "παὶ τὴν πλίνην ἀπὸ τῶν ποδῶν ὑψηλοτέρην εἶναι, παὶ στορεσαι ὧδε." This excellent plan of raising the foot of the bed has been almost lost sight of. It is, however, one of the best methods of applying posture in parturitional hemorrhage. It necessitates no moving of the patient or arrangement of pillows. It is as ready as it is efficacious, and may be used with advantage in cases of uterine hyperemy as well as hemorrhage" (page 130).

JAMES H. AVELING.

LONDON, May 3d, 1892.

"TOO MANY NEEDLESS MUTILATIONS."

To the Editor of The American Journal of Obstetrics.

Dear Sir:—In your April number a letter appears over the signature of Dr. F. B. Robinson in which he accuses Dr. E. C. Dudley, of Chicago, of urging an increase of abdominal sections.

The only ground upon which your correspondent has based this accusation is to be found at the opening of the last meeting of the Woman's Hospital Alumni Association in the State of New York. According to your abstract of Dr. Dudley's remarks, which was published in your March number, he said "that the fame of the Woman's Hospital had rested largely upon the services which had there been rendered in the field of plastic surgery. In other words, the greatest strides there made the past fifteen years had been upon the perineal side rather than upon the peritoneal side of the pelvic floor. He would suggest that if the graduates of this hospital expected to move forward on the crest-wave of gynecological success, they would have to give more attention to the peritoneal side."

I submit whether these remarks at all warrant the conclusions of your correspondent that Dr. Dudley would advise the extension of the indications for peritoneal surgery in general, or of the removal of the uterine appendages in particular. Nothing was said by Dr. Dudley about peritoneal surgery, nothing about the removal of the uterine appendages. It is to be hoped that your correspondent did not realize that his accusation was groundless; and it is more to be hoped that he did not know that just now one of the most injurious charges that can be made against a gynecologist is that of recklessness in peritoneal surgery.

The remarks of Dr. Dudley were made in a colloquial way—were intended to convey, and did convey, to the Alumni Association, of which he was president, the following two ideas: first, our knowledge of the vaginal side of the pelvic floor, thanks to the Woman's Hospital, was now adequate and satisfactory; second, the peritoneal side of the pelvic floor had yet to be learned, and it behooved the Woman's Hospital men of the present to clear up that side as the founders had cleared up the other side. Whether the indications of peritoneal surgery were to be increased or decreased would depend upon the results of the studies urged by Dr. Dudley.

During the past six months I have observed nearly all of Dr. Dudley's cases, both hospital and private, and am therefore in a position, from personal knowledge, to estimate the extent to which he carries the indications for the removal of the uterine appendages. During that time no ovaries and tubes have been removed except for cystic tumors or for pus in

the tubes.

I have seen at least twenty cases which were sent to the doctor for the removal of the appendages. In all of these cases there were anatomical changes; in some the changes were so marked that I had no hesitation in saying operation was the only resource; yet in all operation was refused until Dr. Dudley had treated them himself. The results have been most gratifying, and the greater proportion will go home cured and without mutilation.

In conclusion I would say that at one time I believed there could not be so conservative a surgeon as my father, Dr. Thomas Keith. Now I rank with him in that respect Dr. Emmet of New York, Dr. Skene of Brooklyn, and Dr. Dudley of Chicago. I consider this the strongest statement I can make, as no son eares to allow that any one equals his father in anything.

Yours truly,

GEORGE E. KEITH.

1617 Indiana Avenue, Chicago, April 21st, 1892.

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS, ETC.

DEAR SIR:—I note that exception to my interpretation of the remarks made by Dr. Dudley at the meeting of the Woman's Hospital Alumni Association, published in your JOURNAL of March, 1892, has been taken by Dr. G. E. Keith.

In the first place, my remarks were made on general principles. In the second place, they were impersonal, in that they simply indicated what certain publicly expressed opinions would lead to. My views were simply public interpretations of public utterances. I have not the slightest desire to discuss Dr. Dudley's operative work. I simply objected on general principles to the views of urging the physicians of New York to pay more attention to the peritoneum. I object to urging the men of any great medical centre to do more abdominal sections, for I have observed to my thorough satisfaction that in different centres in Europe, and especially in the United States, too many needless removals of uterine appendages take place. In Europe nearly all abdominal sec-

tions are done by specialists. Unreasonable and uncalled-for removals of uterine appendages are oftener done in the States, so far as I can find out, because of the widespread inclination and participation of both specialists and non-specialists in the work of laparatomy. Most men will fully recognize the absolute necessity of acquiring training and skill before operating on the eye. They acknowledge that it requires training, skill, and experience to properly resect joints, or to cut through the skull for the purpose of removing a cerebral tumor. But, curiously enough, a large class of physicians in the States seem to think that no special or general training or acquired skill is necessary to perform laparatomy. These untrained, so-called operators do not possess the clinical judgment, the acquired skill, or the necessary technique to decide when an abdominal section should be done. experienced operator is the one who operates for insufficient causes or closes the abdomen with an unfinished operation. But, whoever does the laparatomy, I claim that too many needless mutilations occur. A woman is mutilated when her normal functions are unnecessarily destroyed by the late significant term "removal." I have no personal accusation to make, but I can assure the reader that I have seen tubes and ovaries removed time and again when, by careful examination, I could find scarcely a sign of pathological change in them. I am more and more convinced that it should be urged to do less laparatomy from attendance at the periodical medical meetings, where more than one tray is required to present the usual abundant supply of "removed tubes and ovaries." A very unfortunate idea exists among many "removers" of the uterine appendages: it is the curious but senseless idea that there is no standard of pathology by which to measure a sick tube or ovary. One hears it whispered in the medical meetings at which these numerous appendages are presented: "Doctor, what is the matter with those tubes and ovaries? I do not see anything wrong with them." Then the operator expatiates on the unbearable pain in menstruction; the patient nearly had hystero-epilepsy; she was so nervous that she almost had fits! In short, all the diagnostic roads lead to Rome—the appendages must be removed. But why does the charge of unnecessary laparatomy arise?

And why does the quick, sensitive retort of the operator spring forth like the voice of an auctioneer, to be heard simply because something is wrong? He who is armed with sufficient cause for an action, I always note, is in no haste to make an explanation, for the cause will explain itself. The very rush of some operators to give reasons for some laparatomies shows in itself that they have much to explain, and much explanation of any action throws doubt on it. Laparatomy for pathological cause situated in the appendage requires no explanation for a removal. Removal of the appendages for nervousness or hystero-epilepsy, I feel convinced, should be prohibited, except it were urged by a counsel of physicians. The next thing to doing a peritoneal section is urging another to do it. The wily lawyer calls the man who induces another to do something an accessory to the act itself. I object, on general and impersonal principles, to any increase in peritoneal surgery. Let us define the standard of pathology for what is done at present. Indefinable and unaccountable pains in the ovarian region are no excuse for removal of the appendages. In general, the only excuse for the removal of any organ is a recognizable pathological condition

Respectfully,

FRED BYRON ROBINSON.

34 Washington Street, Chicago, May 16th, 1892.

## IS A RIGID OS WITH PLACENTA PREVIA AN ABSOLUTE INDICATION FOR CESAREAN SECTION?

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS, ETC.

DEAR SIR:—Will you kindly grant me space to reply to the communication by Dr. Sligh which appeared in the May number of your JOURNAL?

In this letter Dr. S. denies that there is any doubt of the case in question being cancer of the cervix. The doctor bases his diagnosis, "not upon microscopical sections, which are often unsatisfactory and inconclusive," but "upon sight and feel." He supports his statement by a quotation from a paper read by Dr. A. F. Currier before the New York State Medical Society. I admit that microscopical examinations from scrapings of the endometrium or bits of tissue from the vaginal portion are sometimes inconclusive, but I believe with Dr. Cushing in The American Journal of Obstetrics, April, 1892, that in the vast majority of cases "the microscope is of the greatest importance," and that microscopical examinations throw much light upon the nature of the disease.

Winckel says: "The diagnosis of cancer of the uterus or cervix in its incipient stages can only be made through the aid of the microscope," and Pozzi writes that "in all doubtful cases a section should be cut out and examined." In Mundé and Thomas the following sentences may be found, in which they dwell upon the difficulty of the diagnosis of cancer of the uterus in the early stages without microscopical aid: "We feel sure, however, that he who ventures upon a decision of the nature of a disease at this stage" (has reference to the early stages) "must expose himself to great risk of error. The mere fact of the cervix being excessively hard and nodular is not enough to warrant a diagnosis. This must be accompanied by other reliable signs, as menorrhagia, hydrorrhea, and constitutional failure, to make a conclusion admissible. After ulceration has occurred, diagnosis, to an experienced examiner, is as simple and certain as it is obscure and uncertain before it. It is in all eases safe, and in some essential, to remove a small portion . . . for examination with the microscope."

These quotations may suffice. Similar ones are found in all recent works on gynecology. They fully support the statements I made in the March number of this JOURNAL.

Regarding the definition "absolute indication to Cesarean section." I can assure Dr. S. that my definition is correct (whenever it is impossible to deliver an even mutilated fetus per vias naturales). This definition is taught by Winckel. Zweifel, Sänger, Martin, Kehrer, and other German authorities.

<sup>1 &</sup>quot;Lehrbuch der Frauenkrankheiten," p. 458.

<sup>&</sup>lt;sup>2</sup> "Medical and Surgical Gynecology," vol. i., p. 345.

<sup>3 &</sup>quot;Gynecology," p. 572.

Prof. Leopold, who informed me the other day that he had performed his fiftieth Cesarean section, has not found it wise to modify this definition. These men are not only the "earliest performers" of the conservative sectio Cesarea, but they stand also unexcelled in number of operations and results obtained.

In my letter in the March number of your Journal I made the statement that the case reported by Dr. S. was a favorable one for craniotomy, because the child was premature and dead. When I read his report, which said, "I . . . extracted a fetus of about 7 months, evidently dead two or three days," it never occurred to me that he did not know of the death of the fetns until he extracted it. Dr. S. also says "the supposition that it [the fetus] was alive had its influence in determining the sectio Cesarea." Now, if the supposition that it was alive influenced him in determining the sectio Cesarea, the doctor ought to have informed himself that it was alive at the time of the operation. I do not agree with Dr. S. that it requires "a particularly accurate diagnostician to settle this problem," but believe that if repeated careful examinations show the absence of heart sounds in a case where formerly their presence was distinctly made out, we may be reasonably sure of the death of the fetus.

Regarding my claim that the case of V. H. could have been delivered per vaginam after dilating the os through deep incisions, Dr. S. cites a case in which he performed this operation prior to delivery by forceps. In this case, "about one month after delivery the entire cervix and lower portion of the uterus had sloughed away." In answering this I wish to quote from a recent article by Möller, who says: "If the cancer is yet confined to the portio vaginalis the child should be delivered per vias naturales. The delivery must be followed by vaginal hysterectomy as soon as possible. The rapid development of malignant growths during pregnancy and the pnerperium is well known, and he who delays the removal of the whole uterus must not expect to be rewarded with good results."

Concerning the indications for the conservative, or Porro, operation the same author says: "If the cancerous growth

<sup>&</sup>lt;sup>1</sup>Centralblatt für Gynäkologie, No. 6, 1892.

has invaded the surrounding tissues, making the pelvic floor resistant and hard, the Porro operation must be selected. Infection would be sure to follow the returning of the cancerous organ into the abdominal cavity."

Fritsch, of Breslau, reports a case of cancer of the uterus in which he performed hysterectomy after Freund. The growth had invaded the portio vaginalis and the right parametrium. The child was saved, and the mother left the hospital seven weeks post operationem. In the same journal a case is reported in which the conservative operation was performed. Exitus letalis on the fifteenth day.

Winckel, Martin, and other authors favor the removal of the infected uterns.

Very truly,

JULIUS ROSENBERG, M.D.

NEW YORK, 37 EAST 62D STREET.

# TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF CHICAGO.

Regular Meeting, December 18th, 1891.

The President, J. Suydam Knox, in the Chair.

Dr. F. E. Waxham read a paper entitled

APNEA NEONATORUM,2

Dr. John Bartlett.—For many years I have made efforts to carry on respiration in asphyxiation of the new-born by means of a catheter or tube, but only comparatively recently have I succeeded in doing so in a satisfactory way. If a catheter be used it should not be larger than a No. 6, and bent at a right angle about one and one-quarter inches from its end. Do not attempt to remove the stylet, but carry on inflation with the rod in situ; an attempt to remove the rod will almost invariably dislodge the catheter. The instrument may sometimes be introduced without a stylet, but

<sup>&</sup>lt;sup>1</sup> Centralblatt für Gynäkologie, No. 6, 1892.

<sup>&</sup>lt;sup>2</sup> See original article, page 772.

using it as recommended above is much easier and much more certain. Some three years ago I began to use an insufflator similar to the one exhibited to-night, but experience has shown that the larvngeal tube should be shorter and smaller, for the too large size of this piece as to its length and its diameters has often interfered with the introduction. I may do a service by giving the dimensions of that portion of my instrument especially concerned in its introduction the larvngeal piece. This stands at right angles with the main body of the tube, which is about the size of a No. 7 catheter, the junction being effected by a sharp curve. The shape of the piece in general is conical, tapering of course from above downward, and flattened somewhat from side to side. At its upper portion it measures from before backward—the tube being in position-six millimetres, and from side to side four and one-half millimetres. At its lower end-the point of introduction-it measures from before backward three millimetres, and from side to side two and one-half millimetres. As to the length of the larvngeal piece, the distance between its point and the under surface of the horizontal portion measures thirty-one millimetres. The tube, as infimated, has been reduced to its present dimensions because of difficulties encountered in the introduction of those of larger measurements. While occasionally one may succeed in causing to enter the larvnx of the new-born a No. 6 or even a No. 8 catheter, my experience is that the practitioner will often be foiled in such an attempt. I should add to the description of the laryngeal piece that it is perforated from before backward and from side to side, about one-quarter of an inch above its extremity, by small openings; this is to insure a sufficiently free passage of air through the necessarily small calibre of the tube. I may here mention that familiarity with the introduction of O'Dwyer's tubes will greatly aid the operator in the use of these insufflators. The mode of introduction is exactly the same. One gets a little aid in the introduction of the insufflator by the conjoined use of the thumb, so that the larynx is grasped between the thumb and the index finger resting posteriorly to the epiglottis. The operator may know for a certainty that the tube is in the larvnx by pressing the finger behind it into the gullet and feeling the posterior larvngeal wall separating the tube from his touch. Again, when properly introduced, the point of the tube when inclined forward may be distinctly felt as if it were under the skin, between the cricoid cartilage and the suprasternal notch. It is advisable to run up on the conical larvngeal piece a small washer of rubber dam, in order that the lumen of the larynx may be more exactly closed by the tube.

Now, as to the results of these efforts at inflation, we shall find them varying greatly. Sometimes the inflation of the chest is perfect; the walls expand as in a deep inspiration, and the artificial effort of expiration is equally satisfactory. At other times, while we have evidence of the entrance and exit of air during our imitations of inspiration and expiration, as manifested by a slight expansion of the chest, and more espeeially by the escape of air through the tube during the expiratory movement, it is plain that our efforts are successful only in part and that the lungs are receiving but a small portion of the air that should enter them. Not infrequently efforts at inflation are entirely ineffectual; no air enters the lungs, and the use of the instrument proves a positive failure. In such eases the explanation of the failure of the air to enter the lungs is probably that these organs have been already filled by the violent inspiratory effort of the dving child, aspirating liquor amnii into their cavities or bringing about an extreme condition of edema.

In the event of the attempt at insufflation failing, as here indicated, may anything be done to render its use available? Efforts may be made tending to remove fluid from the lung, as are made in cases of drowning. To this end the child may be inverted while the tube is vet in the larvnx, and inflation then practised. In one case a quantity of liquor animii thus ran from the month as the inflation proceeded. Probably the best way of sustaining the child during these efforts is by having it held by the nurse over her back, she holding a leg in either hand over her shoulder. Inflation alone failing, the tube might be removed, and, the child vet remaining with the head downward, Sylvester's method might be tried with the hope of dislodging fluid and admitting air. The method which I usually resort to when inflation is unsatisfactory is one that I had considered, until within a few years, as rude and rough—I refer to the method of Schultze. Experience has taught me of late that as a means of clearing the passages and placing them in a condition to admit air it is superior to all known to me. Expansion and compression of the chest are also well effected by it. After a trial by this method the tube might again be resorted to.

What is the measure of success in efforts at resuscitation by means of the insufflator? In my hands this instrument is used only as a last resort; when the prospect is that without its aid aëration will cease, the tube is introduced. Often insufflation has brought back a pulse that apparently had ceased to beat, and it has even excited renewed efforts at inspiration after they had ceased for five or ten minutes; but I cannot now recall a case in which the restoration of the child could

be ascribed to the use of the tube.

Dr. Jaggard has cited several cases in which injury more or less severe was done by the introduction of the ordinary insufflation tube. One such instance has come to my knowledge. Used by an inexperienced hand, a tube forced a connection between the larvnx and the subcutaneous cellular tissue, leading to a general emphysema which proved fatal.

In practising intubation it sometimes happens that by the time you get the tube in the child is apparently dead. We know that the simple introduction of a spoon and depression of the tongue has killed a patient in diphtheria; so putting in the gag sometimes seems to kill the patient—that is, the patient appears to be dead by the time you get the gag adjusted. Now, under these circumstances, we proceed to introduce the tube and carry on artificial respiration. In the majority of cases we are able to resuscitate the child. Having invented the insufflator, I made a secondary use of it. I had one constructed to fit into the tubes of O'Dwyer, and now, if the child does not breathe after the introduction of the tube. I introduce the insufflator into its opening and thus form a connection by means of which I am enabled either by the mouth, or preferably the bellows, to get air immediately into the chest. This instrument I have used with entire satisfaction.

Dr. M. Rosenwasser, of Cleveland, O.—Among the causes of apnea Dr. Waxham has not mentioned congestion of the brain, due perhaps to too long pressure on the head, or possibly to the cord being wound tightly around the neck. It could be accounted for in both ways, apnea from congestion in the chest as well as in the brain. Among the methods of resuscitation 1 have frequently found that if you simply cut the cord and not tie it the blood will first begin to ooze, and then it will spurt and the child will breathe very nicely. I accidentally came upon this method, and have since practised it and often avoided other methods.

Dr. W. W. Jaggard.—I think the term asphyxia neonatorum better than the expression apnea neonatorum for the

condition described by Dr. Waxham.

I was very much pleased to hear Dr. Bartlett's indorsement of Schultze's method. This method, after having met with a great deal of adverse criticism, has quietly substituted almost every other method of resuscitation of the new-born in Germany, in England, and to a large degree in this country. It fulfils all the indications in a high degree. There is one great fault with Schultze's method, however—that is, the radiation of heat; in swinging the child through the air a great deal of heat is lost. This is a very important factor and determines a number of deaths.

The instrument I hold in my hand is the balloon catheter

of Gustav Braun, and the method of its use fulfils all indi-

cations in the highest possible degree.

DR. C. W. EARLE.—It appears to me that whatever method we adopt for the resuscitation of children, the tendency with a very large number of practitioners is to cease their efforts before they should. Almost every old woman who has been in the lying-in chamber a great number of times will tell you of cases in which a baby has been born asphyxiated, and the doctor, without making any effort at all, has put the baby under the bed or at the foot of the bed, or somewhere else, and has said there was no use making any efforts at resuscitation; but after an hour or so the child has been found quietly breathing and perhaps sucking its thumbs. So it appears to me that as a society, as far as our influence goes, we should encourage those with whom we come in contact to follow out some procedure for some time. I am in the habit of carrying on some effort for half an hour to an hour.

In regard to the method of procedure, it has occurred to me that while in many instances we do not get very much air into the lungs of the child, the air which we blow into the child sometimes goes down the esophagus, and possibly creates a little irritation there and causes the child to make an effort at breathing. If I understand Prof. Jaggard correctly, he would seem to indicate that that was really an em-

barrassment to respiration.

One cause of asphyxiation I think has not been mentioned—that is, plugging of the nares and respiratory apparatus with hardened mucus. I think we should always pass the finger back into the pharynx as far as possible, to ascertain if there is not some hardened mucus which has caused the trouble.

Dr. Rosenwasser spoke of allowing a little blood to escape from the umbilical blood vessels. It appears to me that is good practice in a strong, living child, but that we should, in our teaching at least, make the remark that if the child is

very pale every drop of blood should be husbanded.

One method which has been referred to is shaking the child by its feet while its head is downward. I saw in Carara's clinic in Florence a child resuscitated after Cesarean section which illustrated to me what a child will stand in greater degree than anything I have ever seen before or since. As soon as Carara had taken the child from the uterus of its mother and separated it from the umbilical cord, he handed it to a nurse who evidently had been well drilled in the procedure, and she took the child by its two feet, head downward, and shook it continuously for several minutes; the child came to and lived without any trouble. If that had been an American child and in my practice, I should have been afraid the head would have dropped off or the child been killed; but it

was an Italian child from somewhere in the mountains, and made an excellent recovery under that method of resuscitation.

Regular Meeting. January 15th, 1892.

The President, J. Suydam Knox, M.D., in the Chair.

Dr. Henry T. Byford read a paper entitled

VAGINAL OÖPHORECTOMY.1

Dr. Byford, in closing the discussion, said that the operation had no effect in changing the position of the uterus. But a cure of previous retroversion may be effected by passing a suture through the vaginal wall, near the upper end of the incision, through a fold of each sacro-uterine ligament, and back through the vaginal wall near the upper end of the incision on the opposite side. Tamponing the cervix well back after the operation causes an adhesion of the anterior and posterior walls of the recto-uterine cul-de-sac, so as to make it impossible for the fundus to get back into the cul-de-sac, and sometimes cures the retroversion completely.

He had not recommended the operation as the best for all cases, but only for those cases that come under the limitations

mentioned in the paper.

The patient upon whom he performed the operation is now perfectly well, without pain, without temperature, and without any symptoms. The uterus, although bound down in retroversion before the operation, is now in a normal position, and the induration following the removal of the gauze has disappeared.

Dr. E. C. Dudley reported two cases of

#### MYOMA UTERI.

Case I.—This specimen of myoma was taken from a

private patient at St. Luke's Hospital.

The patient came under Dr. Dudley's observation about two and one-half years ago. The tumor, which then reached just above the umbilicus, had not caused great menorrhagia, and, though the pressure symptoms were somewhat marked, the patient was advised to wait for the menopause. Finally the pressure symptoms became so distressing, and the general health so reduced, that the growth, which had now doubled in size, had to be removed. Electrolysis was not indicated, because the os externum was so high that it could not be reached by an electrode, and puncture was considered too dangerous.

<sup>&</sup>lt;sup>1</sup> See original article, p. 334.

The operation, hystero-myomotomy, was done October 31st, 1891.

Incision from pubes to a point about two and one-half

inches below the ensiform cartilage.

There were two principal masses of the tumor: one developed from the posterior wall of the uterus to a point near the ensiform cartilage, the other from the right lateral wall into a space which it had made for itself between the folds of the right broad ligament. The ligament on that side even included a portion of the larger mass. The intraligamentous

portion filled and took the shape of the pelvis minor.

The broad ligaments were stripped down and ligatured as far down as possible on both sides. The abdominal portion of the tumor was rapidly enucleated. A temporary rubber ligature was thrown around the corpus uteri. The bladder was catheterized and its extensive attachments to the uterus were stripped off. The right broad ligament was split; the operator's hand was introduced between its folds and the intraligamentous mass enucleated. This required great force; the mass was held not only by its attachments, but also by suction.

The uterus, save a small part of the cervix uteri, was then cut away and the vessels ligatured with silk. An opening was then made between the cervix uteri and the bladder into the vagina, and by means of the ligatures, which had been left long, the stump was drawn down into the vagina and fixed there by means of lock forceps after the method of Dr. Byford. Ganze drain. The patient has recovered and is

rapidly regaining health and strength.

Case II.—Patient first seen in September, 1890; age, 45 years. Uterine myoma, symmetrical in shape like pregnant uterus, reaching to a point about midway between pubes and umbilicus. Menorrhagia extreme, repeated, and exhausting. Advised immediately ice to the hypogastrium, and ergot, and referred her to her local physician for electrolysis or such other treatment as he might select. Electrolysis used irregularly several times during the winter and spring of 1891. Galvano-puncture twice. Menorrhagia increased. About April 1st hemorrhage so excessive as to cause grave alarm. Curettement without ether, and uterine tamponade, by her attendant. Flow lessened but not checked for several days. Dr. Dudley did not see patient at this time, but saw her at the next period, about June 1st, 1891. Uterus then reached nearly to the umbilicus. Flow again alarming for twentyfour hours; patient nearly exhausted. Anesthesia, thorough curettement, and very tight uterine tamponade. Hemorrhage controlled. Uterine tampon removed after forty-eight hours; little or no flow.

The next two periods came on at the usual time with excessive hemorrhage, which was controlled by uterine tamponade. The patient, who was in another city, was about to come to Chicago, but on the day on which she had arranged to start the flow reappeared profusely, a week late, but was again controlled by uterine tamponade. The tumor seemed slightly smaller than in June. At this time the removal of the appendages was considered, but instead it was decided to make another trial of electrolysis. A fifty-cell Leclanché battery was placed at the patient's house; the whole strength of the battery used at each treatment, with a Massey rheostat and a Gaiffe milamperemeter. During October and November, 1891, nineteen intra-uterine applications of the positive carbon electrode were used, the amperage varying from one hundred and twenty-five to two hundred and forty-two and one-half milampères. A large abdominal clay electrode was used. The treatment was given every third day, and was not interrupted during menstruation. During the treatment two normal menstruations occurred. The treatment was suspended about December 1st, 1891. No menstruation since. The uterus is now wholly in the pelvis minor, and its canal is only about three and one-fourth inches deep. Although the nterus is still somewhat enlarged, yet the cure seems to be more than symptomatic. The tumor is almost or quite gone. No tumor can be made out, only an enlarged uterus.

It is perhaps too early to say that the result is permanent. The hemorrhages may possibly return, and "one swallow does not make a summer." This case, however, has gone far toward modifying my estimate as to the value of electrolysis in fibroids. About five years ago I made what I then regarded a proper effort to test the method of Apostoli. I used the Leclanché cell battery, a milampèremeter of an approved American maker, a rheostat, and the sheepskin abdominal electrode. The amperage used was, according to this meter, from seventy-five to two hundred milampères and the length of the treatments usually about ten minutes at intervals of from three to seven days, according to the tolerance of the patient. My results were not encouraging, and I gradually gave up the method or pursued it with little enthusiasm. In my early experience three different American milampèremeters were used, all of which have proved inaccurate. I placed one of them in a circuit with two Gaiffe instruments, and when it registered one hundred and fifty milampères the two French instruments registered only fifty. The general impression that the meters of American makers are unreliable may be correct, and this may account for many

failures in the treatment.

I am indebted to Dr. W. Welherla for the use of his instruments and for valuable advice and assistance in this case.

Looking back upon this former experience, I may confess that, from inadequate technical knowledge or from defective instruments, I probably did not give the method a fair trial. The extravagant claims of Apostoli's enthusiastic followers have often failed to impress the conservative profession with the value of electrolysis for fibroids. Many have undertaken the method with imperfect instruments, inadequate knowledge, and, worst of all, too much prejudice, and I have no inclination to shirk my share of the blame. Clearly the cases must be numerous in which electrolysis can do no good and may do harm, but in a properly selected case it should have a serious trial before recourse to removal of the uterus or of its The importance of the subject demands that it be considered more from the judicial and less from the partisan standpoint. Perhaps then the literature of electrolysis would be characterized by fewer extravagant statements and by less prejudice.

Dr. Newman.—Is it not possible that the result was due to

the menopause!

Dr. Dudley.—It is seldom possible to know what would have happened in any case in which a remedy was used, if it had not been used, but the prompt relief from dangerous hemorrhage would seem to be good evidence in favor of this

remedy in this case.

Dr. Franklin H. Martin.—I wish to make a few remarks on Dr. Dudley's cases. First in regard to the specimen exhibited. The doctor states that it could not have been treated advantageously with electricity, because the cervix was drawn so high that it was not possible to enter the uterine canal with an electrode. A reason of far greater importance, to my mind, for not employing electricity in the case would have been the fact that the tumor was made up of several centres of development with large subperitoneal projections, some of which would have been apparent to a skilled diagnostician. In a recent article of mine in which I published the history of five cases of fibroids of the uterns unsuccessfully treated by electricity, in which subsequent operations demonstrated the cause of failure, I gave the following reasons for the failures, two of which are present in the case exhibited to-night: 1. Fibro cystic tumors. 2. Violently distorted canals. 3. Intramural fibroids of multiple development. Subperitoneal fibroids.

Now in regard to the second case, in which the doctor made a trial of the Apostoli treatment. He states that

<sup>&</sup>lt;sup>1</sup> American Gynecological Society Transactions for 1891.

five years ago he attempted to make a fair trial of this therapeutic agent. He regrets to say that he made a failure at that time. Whether it was through ignorance, or, as he intimates, through the inferiority of the instruments with which he was induced to make his trial, he is at a loss to account. If the doctor had taken the pains at that time to master the elements of the subject, as I did with a host of others, he would not be obliged to come back a repentant sinner at this late hour and acknowledge that through ignorance he had failed. Because it was through ignorance, otherwise he would have known that his instruments were correct before employing them. I protest against his wholesale attack upon American instruments. The milamperemeter which he has denonneed was constructed with the greatest care, under the eye of one of the most scientific and practical electricians in the commercial world. It was not copied after any foreign instrument. It was calibrated in the presence of absolutely accurate test instruments; and a milampèremeter which will not agree with this first standard instrument is not itself correct. However, in order to test the Gaiffe instrument mind von, not to test our own—the American instrument under discussion was scientifically compared with the Gaiffe on a number of different occasions. In 1887, when Dr. Aposteli called on me in Chicago, we discussed this subject, and afterwards, at the Washington Congress, the two instruments were compared. The Gaiffe instrument was correct. Dr. Kellogg, of Battle Creek, sent me a Gaiffe he had for the purpose of comparison, and it tallied exactly with the instrument in my office. A cell of known voltage and a Wheatstone bridge, however, are all any man needs who is acquainted with the elements of the subject to verify the accuracy or inaccuracy of any meter.

I was delighted to witness the rapt attention the doctor received as he described his one successful case. I have reported scores of cases of cure to this Society, not one of which but could have been verified by one or more gynecologists besides myself. I have been respectfully and silently listened to, but have never received the slightest encouragement in the discussions of the Society for my pains. The reason for this has been, I have argued, that I had the presumption to be the first to take up the innovation. If, however, I had based my claims for recognition on one case in which the evidence in favor of electricity was as small as in the one presented this evening, I certainly should have deserved your contempt. Let us analyze it: The doctor went to see the patient. She had a fibroid and was flowing desperately. She had been thoroughly curetted. He packed the uterine canal with iodoform gauze. The next month the doctor curetted

and again packed the canal. The next month the doctor again packed the canal. She decided to come to Chicago. Her stateroom was engaged, when she was obliged to postpone her journey and send for the doctor to pack the canal. All this time, according to the doctor's statement, she had been taking ergot and all other approved tonics and astringents. She at last arrived in Chicago. A battery was arranged in the patient's apartments. A French meter was obtained, and electricity was employed under the most approved surroundings. She was given nineteen applications, the maximum dose of which-note the refinement-reached two hundred and forty-two and one-half milampères. As the menstruction period approached she begged to be packed. She was refused, and the flow was surprisingly scant. She improved and is now comparatively well. What cured the woman! Was it electricity! There are grave doubts. I am inclined to believe that the cicatricial contraction which ordinarily follows thorough curetting, the change of nutrition caused by the packing, and the tonic effect of the most approved medication had far more to do with the cessation of symptoms than did the use of electricity! The cures that I have reported from time to time, amounting to seventy-five per cent of all cases treated, including symptomatic cures, were not complicated by other treatment. In the case reported to-night the evidence in favor of electricity as a eurative agent in fibroids is so small that even I doubt its claim.

Dr. Franklin H. Martin read a paper on

TREATMENT OF THE PEDICLE IN ABDOMINAL HYSTERECTOMY.

Dr. Byford, in opening the discussion, said: The different methods of treating the stump have already been so exhaustively discussed that I will confine my remarks to my own

experience.

From almost the first abdominal hysterectomy I ever witnessed I came to the conclusion that these operations were decidedly unsatisfactory. The first stump I saw treated was ligatured and dropped, and the patient died. The second one was ligatured and stitched to the abdominal wound; the ligatures suppurated, the pus flowed, the temperature rose, time passed, and all but the grateful patient were sick and tired of the thing before it healed. In the next case the stump was fixed by Hegar's method, sloughed off, and was followed by a long convalescence and a hernia. One of the next was treated by Schröder's method, and the patient died. I have also found that if we leave the edges of the peritoneum too thin in sewing up after Schröder's method, they undergo necrosis; if we

<sup>&</sup>lt;sup>1</sup> See original article, page 745.

sew the stump too tight, it becomes necrotic; if we merely approximate the edges naturally, the patient bleeds to death; if we sew up only moderately tight, oozing of blood and septicemia occur; if we drain off the effused blood, the ligatures are apt to become affected and cause an abscess or an almost interminable fistula; if we take out the whole cervix, we involve ourselves in an operation which is most complicated, and a trial of endurance both on the part of the operator and the patient.

Whichever way I turned and whatever I did, there was no satisfaction to be had. The thing I desired most in the world was to find a satisfactory method of treating the stump in

abdominal hysterectomy.

I must, of course, confess that I am prejudiced in favor of the one I always employ, because it has done me so much good service. It is so simple that all operators can do it; so safe that there has not been a death attributed directly to the method; and so complete that the recovery is rapid and perfeet. I must differ with Dr. Martin when he says that vaginal fixation of the stump consumes a great deal of time. All complicated cases consume time. Even ventral fixation often does. The reason the latter appears so much shorter is that when the stump is brought up to the surface the operator seems about done, whereas in reality it still takes quite a while to get everything fixed and the dressings on. In vaginal fixation the steps are simple and a large part of the work is done while the peritoneum is practically shut off. The whole method consists in ligaturing the broad ligaments, separating the bladder from the uterus with the fingers, ligaturing the uterine stump, cutting through into the vagina in front of the cervix, turning down the stump into the vagina and clamping it there.

Let us consider the details more closely and see how safely and satisfactorily they can be carried out. I make an incision large enough to lift out the tumor, and, after lifting it out, lay a flat sponge over the intestine and clamp the edges of the sponge to the edges of the peritoneum so that the abdominal cavity is shut off by it. Thus the incision can be pulled open and over to the sides of the pelvis, and the broad ligament tied as far down as necessary, without further exposure or manipulation of the intestines. After tying the ligaments an incision is made across the uterine surface of the uterus or tumor about an inch above the bladder, with care only to go through the peritoneal membrane. The bladder is then separated by the fingers as far down as the vagina, and, if there be much oozing, a small sponge stuffed down in the raw space. This is a very easy procedure and requires but a few moments' time. An elastic ligature is thrown around the uterus below

51

the tumor, and pedicle pins put through the uterus just above it and made to rest on the abdominal walls. The tumor is cut off, the stump ligatured in three parts with strong silk just above or below the rubber, and then reduced in size by taking out a wedge-shaped piece and roughly sewing the edges together, leaving all the threads four or five inches I now pass the two fingers behind the stump, and the thumb of the same hand in front of the cervix, and slip them down until I feel the end of the cervix and, below it, the vaginal walls between my thumb and fingers. A hemostatic forceps point is thrust down, between my thumb and the cervix, through the vaginal wall to an assistant's finger in the vagina. I spread the blades, draw up the tissues, eatch the tissues with snap forceps, and incise the vaginal walls along the median line for about an inch, pushing the bladder out of the way before the scissors. If the stump is long or large we also make two very short diagonal snips. ends of the ligatures are put on a small pair of forceps, passed through to the assistant's vaginal fingers, and the stump anteverted into the vagina. Now all of the operation in uncomplicated cases is so far done without any interference or exposure of the intestines, and most of the work is just behind the pubes. I now disinfect my hands, press back the intestines with my left hand, while with my right I run a continued catgut suture across from one broad-ligament stump to the other, bringing the peritoneum that was stripped with the bladder from the uterus in contact with the peritoneum on the posterior surface of the cervix uteri. Before liberating the intestines I sponge out the cul-de-sac and then close the abdomen. The abdomen is closed, and the intestines have only been exposed to the air for a few moments and have been handled by no one but myself. The clamp is put on through the vagina. I do not put my finger into the vagina until the abdomen is closed, and the vaginal assistant touches nothing that is going to be used above.

I should call this method much simpler and safer than total extirpation, because we keep more out of the way of the intestines, doing most of the work outside of the abdomen; and we do not lay open the vagina to the abdominal cavity, as in that method. We open the vagina between the stump and pubes, quickly turn the stump into it, and close it off again.

The vaginal fixation is adequate and complete, because the abdomen is shut off the same as in ordinary ovariotomy, all ligatures are made to slough off with the clamp, and the cervix assumes its normal position and location. Nothing is left to ulcerate or cause a fistula, and nothing remains to heal but a little rapidly contracting connective tissue under the bladder.

Dr. Joseph Eastman, of Indianapolis (present by invita-

tion), said: I am thankful to your Society for this privilege of correcting some misunderstandings in regard to my methods in abdominal hysterectomy, and in doing so will describe an operation on a patient at her home in Parrishville, N. Y.

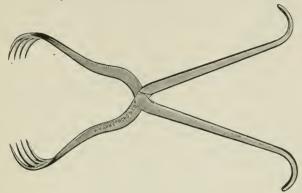


Fig. 1.—Large volsella to extract and hold tumor steady.

Lifting the tumor from the abdominal cavity with corkscrews in this case proved to be a failure, the tumor, weighing thirty-three pounds, having undergone cystic degeneration, so

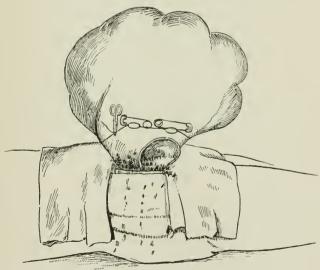


Fig. 2.—Elastic ligature secured in place by safety pins.

that traction on the corkscrews came near letting into the pelvic cavity about two quarts of septic fluid.

Each half of this immense volsella (Fig. 1) was passed deep down into the abdominal cavity and locked as an obstetric forceps, and the tumor lifted out.

This volsella has been of great advantage to me, as its long handles permit the assistant who manipulates them to be well out of my way.



Fig. 3.-Hysterectomy staff to use behind cervix.

The broad ligaments are tied off as close to the tumor as possible, that their upper edges may be brought as far down as possible into the vaginal wound when the same is closed.

The heavy elastic ligature is thrown around the tumor

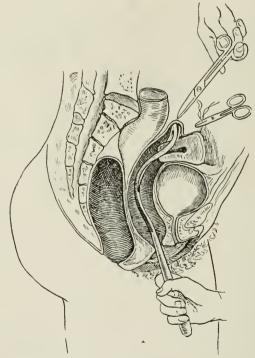


Fig. 4.—Division of posterior vaginal wall-staff in vagina.

(Fig. 2) and safety-pinned, that it shall not slip down and engage bladder or ureter, or slip off and permit hemorrhage.

In beginning to cut away the tumor I am always careful to cut high enough, that I may have as much peritoneum as will

be needed to cover up the excavations, which are enormous

when large nodules have been removed.

This done, the staff (Fig. 3) is passed, cut on to, and the finger introduced into the opening. Then by stitching and cutting right and left the cervix is extirpated. The ligatures are left long, that they may be drawn down the vagina and out the vulva (Figs. 4 and 5).



Fig. 5.—Showing appearance of sutures after extirpation of cervix.

This method is the outgrowth of a case of emergency where I had enucleated large nodular masses from the broad ligaments, leaving a cavity likely to be filled with bloody serum. There was nothing whatever from which to form a pedicle. Bantock finds such cases.

Fig. 6 represents the stitches drawn down, traction on them approximating the edges of the wound and serous lin-

ing of the pelvis.

Additional sutures, inserted on the plan of the Lembert suture, are used, so as to bring the serous membrane together above the wound, making a second suture line, thus entirely shutting off the peritoneal cavity from the wound.

In addition to the long ligatures a drainage tube may be used for a few hours, more for the purpose of irrigating the wound than because the ligatures are not sufficient for drainage. The abdominal wound is closed without a drainage tube.

In cases where, on account of nodular masses in Douglas' cul-de sac, the staff in Fig. 3 cannot be used, it is advisable to enter the vagina at the side, using the staff represented in Fig. 7.

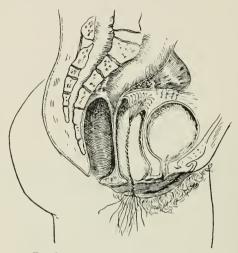


Fig. 6 - Sutures drawn down into vagina.

On several occasions I have found, by lifting up the tumor, the cervix became obliterated. In such eases, in order to determine the exact location of the external os, I pass an ordinary uterine sound down through the cervix, out the external os, and out the incision made in Douglas' pouch into the abdominal cavity. By this means we are enabled to locate the external os and keep the cervix away from the bladder. In



Fig. 7.-Staff to use at side of cervix.

answer to Dr. Martin's criticism that there would be more danger of vaginal prolapse than in Dr. Byford's method, I will say that my object in saving as much of the broad ligaments as possible, and later bringing them down into the vaginal wound, not only in abdominal but in vaginal hysterectomy, is for the purpose of preventing the possibility of vaginal prolapse.

## TRANSACTIONS OF THE CINCINNATI OBSTETRICAL SOCIETY.

Meeting of March 17th, 1892.

The President, Byron Stanton, M.D., in the Chair.

Dr. G. E. Jones reported a case of

ABDOMINAL SECTION FOR MULTIPLE FIBROID OF UTERUS,

and showed specimens.

Dr. G. S. Mitchell said he had been present at the operation and had previously examined the patient and confirmed diagnosis of fibroid of the uterus. The operation was rather prolonged, though but little blood was lost. The greatest difficulty was in getting the pedicle up and transfixed before cutting away the tumor. The peritoneum was separately united by catgut sutures, and held to peritoneum of the pedicle by the same means at the lower angle of womb, where the stump was dressed externally.

Dr. C. A. L. Reed said that he desired to congratulate Dr. Jones on the success of the operation, but did not believe the method followed to be the best one. In the plan adopted in this case the pedicle must be allowed to suppurate externally, although he had shut off the abdominal cavity by stitching the peritoneum to stump at its point of emergence. He did not believe in any operation which provides any tissue to be

disposed of by sloughing.

The speaker believed that the entire uterus could have been removed and the vaginal roof closed by sutures after its complete removal. He thought the entire removal sometimes very difficult, but that the difficulty in dissecting out the cervix could be largely overcome by the Trendelenburg posture. This posture empties the pelvic basin by gravity and offers

better facilities for illumination.

It has been said that the ligatures applied to the broad ligament should be carried downward and out through the vagina, but the speaker did not believe in such a plan. Martin's method is better. This consists in sewing together the peritoneal layers over the vaginal opening. If drainage is necessary, use the tubes as in other abdominal sections. The peritoneum should be aseptic and carefully sealed up, leaving no free external ligatures to invite sepsis by capillary attraction.

Dr. Gustav Zinke agreed in the main with the previous speaker. He had seen several operations done on the plan just mentioned, by Prof. Chrobak. The uterus being exposed, it is seized with a strong pair of volsella forceps and lifted as far out of the abdominal wound as possible. The broad ligaments, put upon the stretch, are first ligated by three sutures running along a line below the tube and ovary, from the outer margin to the uterus. The appendages are then removed with seissors above the point of ligation. He then makes a careful circular incision around the womb, dividing the peritoneal coat on a level with, and a little above, the bladder, and, with the aid of his thumb nail or the handle of the scalpel, dissects it off until he has reached the cervico-vaginal junction in front and behind the tissue containing the uterine artery and vein on either side. The latter is then ligated and cut close to the point of insertion into the cervix. One of his assistants then introduces into the posterior culde-sac the hysterectomy staff. With the aid of this instrument, fixed behind the cervix, the posterior fornix is pushed up and the operator penetrates the vagina from above, cutting with the knife along the groove of the instrument. The removal of the uterus is now a comparatively easy matter; by repeated small cuts with the knife or scissors the vagina is severed from its junction with the cervix, bleeding points being ligated according to necessity. An "iodoform wick," the thickness of a finger and the length of the vagina, is then introduced into the vagina from above, and folds of the peritoneum, secured from the uterus, stitched over it, thus separating the vagina completely from the peritoneal cavity. All the cases seen had recovered promptly without complications.

Dr. C. D. Palmer said he had done supravaginal hysterectomy for fibroids of the uterus on two occasions, one successfully and one unsuccessfully. He distinctly recalled the prolonged and animated discussion on this subject, as to the modes of operation in cases of this kind, which occurred in New York City at a meeting of the American Gynecological Society in September, 1889. Bantock, of London, took the position that the extraperitoneal method was the more desirable, while Martin, of Berlin, favored the intraperitoneal method. Without doubt the Koeberle method has given better results, the world over, than the intraperitoneal technique, but it is very tedious, painful, and unsurgical in results. The intraperitoneal is more surgical, although he admits the increased dangers of hemorrhage and septicemia. He was very favorably impressed with Krug's report of cases.

Dr. Rufus B. Hall believed the entire removal of the cervix after the section and removal of the fibroid tumor to be the correct method. He had made supravaginal hysterectomy by

Keebele's method several times, and the new method once

only, but he was decidedly in favor of the latter plan.

Dr. C. A. L. Reed spoke of a case in which he had removed the uterus by the new method, stating that the patient had suddenly died on the fifth day, presumably from hemorrhage. He believed, in the absence of an autopsy, which was denied, that one of the ligatures had slipped off the broad ligament under stimulus of some violent muscular movement on the part of the patient.

Dr. Rufus B. Hall reported a case and showed specimen of

TOTAL EXTIRPATION OF THE UTERUS FOR LARGE FIBROID TUMOR.

Mrs. B. W., age 50 years, well nourished and in fairly good health, suffered severe pain, which has increased from a mere discomfort some six months ago to a constant severe pain at the present time. A tumor filled the pelvis and the greater part of the largely distended abdominal cavity. It was irregular in outline, with one large mass extending to the right upper part of the abdominal cavity, and weighed twentytwo pounds. The operation was made February 4th, 1892, at the Cincinnati Free Surgical Hospital for Women. patient has known of the tumor for about twelve years. the operation it was found that the only portion which was not adherent was a space of about six inches square directly in front. All the upper half of the tumor was covered over with omentum, which was adherent to it and the abdominal wall, and was so much damaged that it was removed. The most difficult adhesions, however, were intestinal, upon the upper and back part of the growth, which we were obliged to separate, without the aid of sight, before the large mass could be turned out of the cavity. The adhesions in the pelvis were so extensive that a temporary clamp to control bleeding could not be applied until the tumor had been delivered. patient therefore lost a large quantity of blood before the temporary clamp could be utilized.

While separating adhesions in the pelvis an abscess cavity was opened up and a pint or more of pus turned out. The pus cavity was outside the tumor proper, and, as near as could be determined from the specimen, it was a pyo-salpinx, but the specimen was so torn it was impossible to say posi-

tively.

After the bulk of the tumor had been cut away and the broad ligament had been tied, the work of total removal of the cervix was the next procedure. The vagina was first opened behind the cervix, and, by careful stitching and ligating around the cervix, it was soon removed entire. The ligatures were left long and brought out through the vagina, but

the after-management of the case has convinced me that the ligatures should be cut short. The patient recovered and left the hospital the sixth week. For more than five years I have believed this to be the rational and correct method of operating for large fibroid tumors, and have discussed the matter in private with my friends engaged in this work; but I did not have the courage of my convictions and make the operation until this case, though others have done so. I am convinced that total extirpation in these cases is an operation which has come to stay, and the clamp in hysterectomy will soon be a thing of the past, as certainly as it is now a thing of the past in ovariotomy.

## Meeting of April 18th, 1892.

The President, Byron Stanton, M.D., in the Chair.

Dr. Charles A. L. Reed reported a case of

ABSCESS OF THE OVARY UNCOMPLICATED WITH PYO-SALPINX ON THE SAME SIDE; PARIETAL ABSCESS; ABDOMINAL SECTION; RECOVERY.

Dora B., age 19, single, was referred to me by Dr. Orr, of Butler, Ky., March 20th, 1892. She gave a history of robust girlhood until two years ago, when she sustained a fall giving rise to immediate pain in the lower abdominal and pelvic regions. This pain had persisted ever since. At the time she came to the hospital she was anemic, with pinched features, and could not stand straight. Upon examination the belly was tense, the area of dulness extending nearly to the umbilicus. The presence of the hymen and extreme narrowness of the virginal vagina caused me to desist from digital examination by that canal, particularly as there were

ample indications for operation without it.

March 29th, in the presence of her attending physician, Dr. Orr, and my friends Dr. L. S. McMurtry of Louisville, and Dr. Demetrius Staneff, of Bulgaria, I opened the abdomen. The median incision opened up a large cavity filled with fetid pus. This cavity was purely parietal, and, so far as could be determined, had no communication with either the uterns, its appendages, or the intestines. After emptying this cavity thoroughly and cleansing it with bichloride, a large, flat sponge was placed over it and an independent incision, an inch further up the median line, was made into the peritoneal cavity. This indicated the presence of a very large ovary, apparently cystic, wedged into the cul-de-sac, and a general inflammation transforming the pelvic contents

into a homogeneous mass. Every effort to break up adhesions caused copious hemorrhage. This, in a slender patient already anemic, was a serious matter. She was however, lifted into the Trendelenburg posture—a position which, I believe, should always be practised in severe abdominal operations involving the loss of considerable quantities of blood. As quickly as possible the large ovary was delivered and the pedicle duly ligated. The appendages on the other side were seriously involved, and so firmly were they united to the rectum that a rent was torn in the latter in the act of The patient was, however, apparently in exenucleation. tremis, and at the suggestion of Dr. MeMurtry, in which I heartily concurred, I at once concluded the operation without attempting the closure of the tear in the rectum. drainage tube was inserted. On the second day there was a copious fecal discharge through this avenue, but the fecal element soon subsided from the drainage which we kept up for a considerable time as a precautionary measure. The specimens show a very large ovary, with the Fallopian tube attached and adherent to the sides. The tube is patulous at both the extremities, and no evidence of purulent contamination could be found in its interior. From the other side the tube was also removed, the fimbriæ of which are likewise free.

The points of interest in this case are: 1. A long-standing abscess in the abdominal wall, evidently of tranmatic origin. 2. Extensive and diffuse intrapelvic inflammation, producing occlusion of either tube. 3. An unusually large abscess of the ovary without being complicated with pyosalpinx. 4. The existence of firm adhesions as the result of a delay for which my friend Dr. Orr was not responsible, but which made the rent in the rectum an unavoidable complication in enucleating the involved appendages. 5. The

spontaneous closure of the fecal fistula.

Dr. Palmer said he had experience with one fecal fistula. It followed an ovariotomy which he did for a large multilocular ovarian cyst in a young woman. It was universally
adherent, and considerable manipulation was needed to detach it from adherent intestines. A drainage tube was utilized. On the second day following a peritonitis developed.
He suspected septic purulent peritonitis, and on the fourth
or fifth day opened the abdominal cavity, washed it out, and
in a few days some chyle began to show itself in the line of
the incision in the abdominal walls. After a tedious convalescence it finally closed, nothing having been done excepting supporting measures and thorough cleanliness. But
some five to six months elapsed before complete closure followed.

Dr. Rufus B. Hall showed a specimen of

### FIBROID OF THE UTERUS

and reported a case. Patient, Mrs. P., age 52, youngest child 18 years old. Referred to him by her physician, Dr. Means, of Troy, O. She had been conscious of the existence of the tumor for a number of years. Gave a history of pro-fuse menstruation for eight or ten years, with severe flooding for a year or more. Twice in the past year she had not menstruated for eight or nine weeks, but when she did it amounted to a hemorrhage for ten days or longer which greatly prostrated her. In fact, each menstrual period for more than a year had been so profuse that it could justly be called a hemorrhage. The patient had been under the care of her physician for several years and suffered greatly from pressure symptoms. Just preceding the operation she had been treated two and three times a week by electricity. The tumor filled the pelvic cavity and extended well up into the abdomen. She had been bleeding freely for three weeks and was still bleeding when the operation was made. After the abdomen was opened it was found that the tumor had developed in the wall of the uterus in such a manner as to lift the fundus up to the highest point of the growth, lifting the broad ligament up with it and at the same time pressing the tumor down into the pelvic cavity. The patient had been subjected to everything for relief but an operation. March 31st, after the ovaries and tubes were tied off, the tumor was clamped and cut away, after which the entire cervix was dissected out from above by first dissecting off the bladder and then ligating the broad ligaments in sections and cutting all the ligatures short. The vagina was loosely packed with gauze, and a glass drainage tube placed and the cavity drained in the usual manner. This, he thought, is much to be preferred to vaginal drainage by gauze alone. The drainage tube was removed in fifty hours and the patient made an easy recovery. He was pleased with this method, this being his second case treated in this manner, and both recovered. He thinks we will all soon lav aside the clamp in this operation.

Dr. Hall also reported a case of

VAGINAL HYSTERECTOMY FOR CANCER OF THE CERVIX,

operation made April 11th, and showed specimen. The case illustrated one of the dangers from the operation, that of accidental hemorrhage, even when the clamp is used, by the clamp cutting through the broad ligament if undue tension be applied. This will sometimes take place if the patient

vomits after the operation. In this case, three and one-half hours after the operation, while the patient was vemiting, she felt something give way and she commenced bleeding freely. He saw her at her home, where the operation was made within twenty-five minutes after the accident. She was almost pulseless and had lost a large quantity of blood. She was put under chloroform and lifted on the table, and it was then found that the clamp (Eastman's) on the right side had been torn off from the whole lower half of the broad ligament. It still held its grasp on the tissues which had given way, as well as on the upper part of the broad ligament. The accident, however, had liberated the uterine artery on that side from which the hemorrhage came. It was but the work of a moment to grasp the lower portion of the broad ligament with a large forceps, which controlled the bleeding, and with a second pair of forceps the upper portion of the broad ligament was grasped and the clamp removed. No more hemorrhages occurred, and the clamps were removed fifty-two hours after the operation. The patient is doing well, and he thinks she will recover.

Dr. C. D. Palmer said, as this subject was up for discussion at our last meeting, he had freely expressed himself, and he could merely repeat some of the points then made. He believed in thorough hysterectomy in certain cases, but it should only be as a dernier ressort. As to the treatment of these cases, we should proceed as follows: 1. See what Nature can and will do, on account of the patient's age. 2. Make use of medicines, by the mouth or hypodermatically. 3. Free curetting of the endometrium after, and followed by thorough antiseptic precautions. The sharp steel curette is preferable. 4. The Apostoli treatment. Personally he had not lost faith in this method. In two cases in his experience large fibroids had about disappeared, and in a case just sent home great reduction in size had taken place. "It was worthy a fair trial in properly selected cases. Certain degenerative conditions, as well as certain localizations of fibroids, were contra-indications. 5. Failing with all of these and having a growing, burdensome fibroid with marked pressure and hemorrhagic symptoms, the abdomen should be opened, and three things are to be considered: Will an oophorectomy promise anything, as it may if the tumor is below the line of the umbilions? Is the tumor pediculated? Can it be removed without seriously damaging the uterus? This, of course, implies a purely intraperitoneal technique. And, finally, if there is to be no opphorectomy, and if the tumor is not peduncular, the last procedure should be a complete removal, both of the tumor and the uterus from which the tumor springs.

Dr. C. A. L. Reed described Eastman's clamp, which he did not recommend. He thought we had not improved on Péan, who added clamp after clamp until he controlled the hemorrhage. We certainly have not improved on his results. In the second case Dr. Hall is to be congratulated, although the size of the tumor would seem to suggest that extirpation of the appendages would have fulfilled all requirements of treatment. It is my opinion, however, that we shall be able in the future to demonstrate that complete extirpation of the uterus by this method is as safe as the extirpation of the ap-

pendages.

This latter is no trifling operation, and, in certain cases, is simply impracticable. This was proven in a recent case of mine, in which I found both ovaries and Fallopian tubes so diseased that they could not be removed without complete ablation of the uterus, which I practised. Dr. Hall did the first case of this kind in Cincinnati, and I did the second and the third. In my first case the patient was doing perfectly up to the fourth day, when she was suddenly startled by a noise in the house, and appeared to break loose some important vessels within the pelvis, so that she died shortly afterwards from secondary hemorrhage. My second case, the one to which I have previously alluded in these remarks, was that of a woman afflicted with hemiplegia of specific origin. The operation was done for the relief of urgent pressure symptoms (I shall exhibit specimens at the next meeting of the Society.) This woman rallied splendidly, got along without any elevation of temperature for ten days, at the end of which time the paralysis extended to the other side and she suddenly died.

I believe that the practice resorted to in certain localities, of leaving the ligatures long and bringing them out through the vagina, is a mistake. We cannot determine the course of capillary drainage; in other words, we do not know whether we are draining into the pelvis or into the vagina. The latter is very liable to septic infection through the decomposition of natural secretions, giving rise to a danger which is obvious. I, however, have for a number of years advocated what Martin is now practising—i.e., complete closure of the peritoneal cavity and drainage as in ordinary laparatomy,

providing drainage is needed at all.

Dr. A. W. Johnstone agreed with Dr. Reed. There should be ablation of all diseased tissue, insertion of the sutures in cellular tissue, and a complete operation made of it. He had never made total extirpation for so small a tumor but once, in which there was an edematons fibroid. He thought elec-

tricity a fraud.

Dr. Hall could not agree with some of the speakers that it would be best to remove the ovaries in the case of a tumor of this size. Removal of the ovaries in this case would not have removed the pressure of the tumor on the reetum from which she suffered so much. He could not agree with the speaker that those patients nearing the menopause received the most benefit from electricity. He had seen quite a number of cases treated at that time with electricity whose symptoms had been made worse, and others not improved by it. The same gentleman says we must select our eases well and only use electricity under certain conditions. Yet we all know that it is not possible to be absolutely certain in any given case that it is one that is suitable for treatment by electricity until after it has had a trial, as the case referred to; and as it more frequently does harm than good, therefore he could not recommend it.

Dr. E. S. McKee read a paper on

### HABITUAL ABORTION.1

Dr. C. D. Palmer spoke of the great frequency of abortions. He did not believe that the expression "habitual abortion" expressed anything. There was always a cause, and it varied greatly. A woman may abort frequently, and every time from a different cause. The most common cause was endometritis, and the various degenerative changes in the ovum, fatty, eareous, calcareous, or hydatidiform. Syphilis, paternal or maternal in origin, leads to one of these degenerative changes very often. He had much faith in the chlorate of potassium, but believed its use was largely limited to eases of premature delivery as a result of fatty degeneration of the placenta.

Dr. P. S. Conner thought ninety per cent of the cases of abortion were due to syphilis. The chlorate of potassium has been employed by many for the anemic condition found in

syphilis.

# TRANSACTIONS OF THE NEW YORK OBSTETRICAL SOCIETY.

Stated Meeting, March 1st. 1892.

The President, CLEMENT CLEVELAND, M.D., in the Chair.

PARTURIENT RUPTURE OF VAGINAL VAULT INTO THE PERITONEAL CAVITY; RECOVERY.

Dr. Paul F. Mundé reported a rare case of recovery from this accident. He had been asked by Dr. L. J. Ladinski to

See original article, page 775.

see with him in consultation, on January 18th, a woman whom Dr. Ladinski had seen that morning. This was her fourth confinement, the others having been normal. She had first been attended by a midwife, who, finding transverse presentation and obstruction to delivery, sent for a physician. The physician found the head presenting and made an attempt at delivery with forceps, but failed. Dr. Ladinski was then called in to see the case and found the head low down, and was able without great difficulty to deliver the child, which was dead. He learned that the midwife had given some medicine to hasten the labor, and in all probability this was ergot. The uterine contractions had been extremely violent. After delivering the child and making the usual manipulation for expressing the placenta, he found the uterus well contracted, but the placenta did not escape. Introducing his hand, he found a large rent in the vaginal vault, through which he passed his hand into the abdominal cavity, where he found the placenta and removed it. He gave stimulants freely, packed the vagina loosely with iodoform gauze, and applied an ice bag to the abdomen. Dr. Mundé first saw the case about ten hours after the accident, and then found the patient with a pinched and anxious expression, tympanitic abdomen, and a slight bloody discharge from the vagina. The uterus was contracted with unusual firmness, considering that only a few hours had elapsed since delivery. After removing the gauze he found a large tear in the left vaginal vault, at least three inches in length, through which his fingers passed into the peritoneal cavity. The cervix was firmly closed. He gave an unfavorable prognosis, but advised the introduction of a large rubber drainage tube into the peritoneal cavity, through the vagina, and packing with iodoform gauze, with the idea of admitting the patient later to the hospital and closing the rent with sutures should she rally from the accident. Much to his surprise, she lived to come to the hospital on the evening of the next day, and on the day following her pulse was 130°, temperature 104.6°, but she was in no condition at that time for the proposed operation. An ice coil was kept on the abdomen and stimulants were freely administered. Fortunately her stomach retained nourishment. For the next eleven days the pulse ranged between 100° and 140°, and the temperature varied between 102° and 104°. On the third day after delivery the drainage tube was removed, and on the fifth day, the discharge becoming offensive, tepid carbolized douches were employed. He had forbidden the use of douches before this time, in order to avoid interference with the natural formation of adhesions, should such occur. The bowels were moved for the first time on the fifth day after the accident,

after repeated doses of calomel and Rochelle salts, aided by high oxgall enemata. It was chiefly due to the very eareful work of Dr. Lovell, the house surgeon, that the bowels were moved at this time without injury to the patient. Immediately after this the tympanites diminished, and the patient from this time went on to complete recovery. He thought we should all be grateful to Lawson Tait for having showed us the importance of free evacuation of the bowels in cases of this kind where peritonitis is impending. An examination made on the twentieth day showed that the peritoneal cavity was shut off, but the vaginal rent was still open. After this examination her temperature rose to 103.5°, but again dropped to normal after several days. At the present time the rent is entirely closed, and a digital examination shows nothing but a funnel-shaped, puckering vaginal vault.

He had thought it worth while to bring this patient to the meeting, as he considered the accident a fairly common one, but recovery from it was extremely rare. He had seen ten or fifteen cases of this kind, all of which proved fatal. In this particular case recovery was due partly to the use of free drainage, but chiefly to the patient's vitality and the judicious treatment directed toward the early and thorough evacu-

ation of the intestines.

The manner of its occurrence was somewhat peculiar. He believed that the midwife, recognizing as she did the position of the child, hoped to force it through by the administration of ergot, and that this drug had induced such a violent contraction of the uterus that the child was forced down upon the unyielding pelvic brim, and the vaginal attachments of the uterus were compelled to yield to the unusual force to which they were subjected, and the uterus was literally torn from the vagina.

Dr. Florian Krug said that many of the fatal cases which Dr. Mundé had seen probably occurred in the pre-antiseptic period, and that the cause of death was probably either hemorrhage or septicemia. Such cases should not prove so fatal nowadays, for we make much larger wounds in the perform-

ance of vaginal hysterectomy.

Dr. H. J. Boldt desired to report a similar case which he had seen in the practice of Dr. Schumann. He did not remember the exact mode of its occurrence, but the injury was of a similar nature. This patient had also made a good recovery. He had seen a few such cases before this, but they had all died.

Dr. J. R. Goffe presented specimens of

A VERY LARGE INGUINAL OMENTAL HERNIA CONTAINING THE COLON AND STOMACH.

The patient was a woman 36 years of age, who, nine years ago, had had a large lipoma removed from the abdomen. It was attached to the right inguinal canal and ring. It is probable that this operation weakened the structures in this region, for shortly after it the swelling was noticed at the original site of the tumor, and this had been steadily increasing ever since then. Thinking the tumor was a recurrence of the original growth, the patient failed to seek medical advice until it had reached very large proportions. Examination then showed a large, rounded, and somewhat irregular tumor in the right inguinal region, the most pendulous portion of which extended down to the knee and completely covered the right thigh. It yielded a slightly tympanitic note on deep percussion. It was found that, with the patient in the Trendelenburg posture, about two-thirds of the mass could be returned into the abdominal cavity. A diagnosis was then made of hernia with adherent omentum. With the patient in this posture an incision was made over the neck of the tumor, through the median line to its This exposed an immense mass of adherent omentum, deep pockets in the sac being filled with grape-like masses of omentum. The intestines were not adherent. After tearing away the omental adhesions, the whole contents were readily shelled out of the sac, and, to the surprise of those present, were found to consist not only of the small intestines and omentum, but also of the colon and stomach. These were returned as nearly as possible to their normal condition, great care being taken to avoid twisting these viscera. The redundant skin was then cut away and the wound closed. The patient suffered considerably from shock, but rallied soon after and is now well on the way to recovery. The chief feature of the treatment was the thorough evacuation of the bowels from the very beginning. Another interesting point in connection with the case was the fact that, notwithstanding this great prolapse of the intestines and stomach, the patient's general nutrition was well maintained.

Dr. W. R. Pryor said that he had had an opportunity of seeing this case several times, and he was surprised to hear Dr. Goffe say that it was an inguinal hernia, for he did not think that any skin sac came through the femoral or inguinal ring; and it was not attached to the pubes, but formed a distinct fold there, and seemed as if the hand could be passed into the ring close to the median line for three inches above the pubes. He considered it an ordinary ventral hernia resulting from laparatomy.

Dr. Goffe replied that the stomach was certainly below the groin, as it lay in the sac, but this did not militate against the diagnosis of inguinal hernia. He thought the mass came directly through the inguinal ring without following the canal.

CARCINOMA OF THE UTERUS; MYOMATA; LAPARO-VAGINAL HYSTERECTOMY; DEATH FROM INTESTINAL PARALYSIS.

Dr. G. M. Edebohls presented specimens from a case of carcinoma of the uterus. The specimen consisted of the uterus, tubes, and ovaries, which he had removed by laparovaginal hysterectomy. The tubes and ovaries were nearly normal, the uterus contained three small myomata in its walls, and there was a teat-like growth from the mucous membrane of the fundus, projecting one and one-half centimetres into the cavity of the uterus. This had been examined microscopically and pronounced an adeno-carcinoma. The patient was a widow, 40 years of age, who had never been pregnant, and who was first seen by him in consultation on July 28th, 1891. She gave a history of having suffered from pelvic inflammation during the early part of her married life, but since then had been in good health until quite recently. Her menses ceased in February, 1890. Examination suggested incipient changes, probably malignant, in the endometrium, and he predicted a development of malignant growth and advised her to return as soon as a hemorrhage occurred. The predicted hemorrhage occurred six months later, and twenty-two months after the menopause. Diagnostic curettement revealed a rounded elevation near the fundus of the nterus, and the scrapings were examined by a microscopist, who reported that they suggested carcinoma. During the last few weeks she had complained of violent, deep-seated pelvic pains. At the operation some difficulty was experienced owing to the great distention of the intestines. After tving the ovarian arteries the cervix was circumcised through the vagina, the bladder and rectum separated from the uterus, and the anterior and posterior cul-de-sac opened. Failing to tie the broad ligament from below, owing to the high position of the nterus and the extreme narrowness of the vagina, clamps were used, and the cavity afterwards packed with iodoform gauze which was brought out through the vagina. The operation was unusually difficult and lasted nearly two hours. Tympanites had been the patient's life-long complaint, and was a most troublesome condition during the operation. It increased enormously after the operation, and thirty-eight hours later the patient died as a result of intestinal paralysis. There was no rise of temperature and no vomiting, and the patient only complained of distention of

the bowels. The autopsy showed an entire absence of peritonitis.

The symptoms of intestinal paralysis and acute septic peritonitis are so identical that until recently the speaker stated he had been sceptical about one's ability to differentiate between them. Where symptoms of peritonitis had almost immediately followed a laparatomy, and yet the autopsy demonstrated the entire absence of any inflammation of the peritoneum, he had been accustomed to explain this on the ground that death occurred so soon that sufficient time had not elapsed for recognizable changes to take place in the peritoneum. However, about six months ago one of his patients had developed, within twelve hours after the operation, symptoms leading to a diagnosis of acute septic peritonitis, the abdominal distention being the most rebellious and annoying symptom. The patient died four and one-half days after the development of these symptoms, yet the autopsy revealed absolutely no evidence of peritonitis. Since then a few isolated cases occurring in his own practice and several of his friends had led him to believe that it was possible to correctly differentiate an intestinal paralysis from peritonitis.

Dr. Malcolm McLean asked about the temperature of the operating room, and whether the air had been kept moist or dry, inasmuch as a dry atmosphere and a temperature which was not decidedly high proved exceedingly dangerous when a large peritoneal surface of the intestine was exposed. He had followed up this subject very carefully, and thought that the late Dr. J. B. Hunter and himself had given a satisfactory explanation of this fatal distention of the intestines, to wit, that the operation in these fatal cases had been done where the temperature was not over 75° and the air of the room very dry.

Dr. Edebohls also presented a specimen from a case of

EPITHELIOMA OF THE CERVIX UTERI REMOVED BY VAGINAL HYSTERECTOMY.

The growth involved the lower two-thirds of the cervical mucous membrane, and had been removed from a patient, 57 years of age, who had had eight children and whose menses had ceased at the age of 50. She had suffered for one year from uterine hemorrhages and offensive leucorrhea. The uterus was removed and the patient made an uninterrupted recovery. The neoplasm could have been removed by high amputation, but he could not but feel that the chances of recurrence were considerably less by the method which he had adopted. After witnessing a number of times the very careful work of his friend Dr. Krug in the use of the ligature in

vaginal hysterectomy, he had come to abandon in most cases the use of clamps, and was willing now to announce his conversion to the ligature.

Dr. Edebohls next presented specimens from a case of suppurating intraligamentous cystoma; unilateral chronic pelvic peritonitis; secondary salpingitis and appendicitis; extensive laceration of the cervix and perineum; curettement, trachelor-rhaphy, removal of the cyst, tube, and appendix at one sitting; recovery.

The patient was 24 years of age and had had three children. She had complained of intermittent pains in the right inguinal region ever since the birth of her last child four years ago, and during the last two months the pain had been severe and continuous. The perineum was torn down to the sphincter, and there was a deep laceration of the cervix and an extensive ridge of the cicatricial tissue. The left tube and ovary were normal; the uterus was crowded to the left by a firm and somewhat oval tumor in the right broad ligament. The right ovary was normal and lay behind the tumor. On February 9th, 1892, on the assumption that this was an easily removable abdominal tumor, he began with curettement and trachelorrhaphy, intending, if an abdominal section could be safely performed, to do a perineorrhaphy. The first two operations occupied twenty minutes. He then opened the abdomen and found that the tumor filled the whole pelvis. The right ovary and tube were adherent to an elongated appendix vermiformis. There were also a suppurating intraligamentous cyst, a few small peritoneal cysts, and the bladder and also part of the omentum were adherent to the lower pelvic walls and the adjacent intestines. The diseased appendix was cut off close to the caput coli, and the opening in the intestine closed by a double row of Lembert's sutures. During the operation a teaspoonful of pus escaped into the peritoneal cavity. The peritoneal cavity was flushed out with water and packed with gauze, and left open for drainage. The gauze was removed two days later, and the abdomen then permanently closed.

Dr. Mundé thought that the operator deserved great credit for doing such a complicated series of operations, although undoubtedly part of the successful result was due to the patient's vitality. He described several complicated operations of this kind which he had done himself at one sitting.

PYO-SALPINX; INTRAPERITONEAL ABSCESS; EXTENSIVE ADHESIONS, NECESSITATING REMOVAL OF THE UTERUS.

Dr. Edebohls also presented specimens from still another

case. It was of interest in connection with the specimen which had been presented at the last meeting by Dr. Polk. The case to which he referred was one in which it had been found necessary, on account of extensive adhesions, to remove the entire uterus. He had himself just met with such a case. There was pyo-salpinx with a large intraperitoneal abscess of puerperal origin. After entering the intraperitoneal abscess he found the tissues about the appendages so thickened that he was utterly unable to distinguish the tubes and ovaries from the uterus. On this account he extirpated the entire uterus, and he hoped the downward drainage thus secured would give his patient a better chance for recovery

than if the uterus had been allowed to remain.

Dr. Edebouls, in closing the discussion on his specimens. said that the temperature of the operating room was kept at about 85°, the usual temperature which was maintained for his laparatomies, but in this case the air of the room was dry, and he had no doubt that the prolonged exposure of the large intestinal surface—unusually large in this instance, on account of the great distention of the bowel—had been the cause of the intestinal paralysis. It must be remembered, however, that the patient had suffered all her life from tympanites, so that there were probably other etiological factors present. The question of combined operations is a very large subject, and one which he thought would, in the future, absorb still more the attention of gynecologists. We had no right to perform one operation after another, with a considerable interval between them, if we could do them all at one time with safety to the patient. He had on several occasions, in addition to performing ovariotomy, in addition to a large ovarian tumor, sewed up the cervix, curetted the uterus, and in one instance had added a perineorrhaphy. It is simply a question of the rapidity of operating and the length of time the anesthesia should be maintained. He had set the limit at one and a half hours for a patient of average constitution. The curettement in his last case was done for a suppurating intraligamentous cystoma in the abdomen and was immediately followed by laparatomy. He observed no disturbance as a result of this curettement.

DOUBLE PYO-SALPINX, OVARIAN ABSCESS; CURETTEMENT DURING ACUTE PELVIC INFLAMMATION; SUBSEQUENT LAPARATOMY; RECOVERY.

Dr. Krug presented specimens from a double pyo-salpinx with ovarian abscess. It was hardly necessary to remind the Society that a dilatation, curettement, and drainage of the uterus had lately been the subject of quite active discussion,

and that he had himself expressed his hearty approval of the method and his determination to try it in a case of acute pelvic inflammation as soon as opportunity should offer. The case which he had to report was certainly a severe test of the method. The patient was 23 years old and first came under his care in August, 1891, complaining of dyspareunia and sterility. A thorough examination was made under ether, and showed that the left ovary was slightly prolapsed, but otherwise the pelvic organs were normal. On February 27th 1892, she returned and said she had been pregnant for two months and had miscarried three weeks ago, and that since then she had suffered severe pain in the abdomen, with high fever and general malaise. She had a temperature of 102.7° the abdomen was very tender and slightly tympanitic, and the uterus was large and extremely tender and was surrounded by a very tender mass which was fluctuating. On February 29th she was etherized. Ordinarily he would immediately have proposed laparatomy, but he determined in this instance to attack first the primary seat of the sepsis and remove the secondarily affected adnexa afterwards. He withdrew a few drops of pus from the mass bulging in the vagina, not because he had any doubt about the diagnosis, but simply to demonstrate to those present the existence of pus and to guard himself against unfair criticism. He then dilated the cervix, removed a number of shreds and decomposed blood clots, also the entire diseased membrane, with a sharp curette, thoroughly irrigated the uterine cavity and then packed it with gauze. During the two days preceding this operation the temperature had been taken every four hours, and it had stood about 103° most of the time, 101° being the lowest temperature recorded. The operation in question was performed at 4 P.M., and at 8 P.M. the patient's temperature had fallen to 99.3° and the pulse was 80. The temperature remained below 100° for three days, then rose to 101° in the afternoon, but immediately became normal after changing the gauze packing. The patient experienced so much relief after this preliminary operation that she was with difficulty persuaded to submit to any further operative measures. Laparatomy was performed one week after the curettement, with the patient in the Trendelenburg posture, the specimens shown removed, and the pelvis packed with iodoforin gauze, which was gradually removed during the six days immediately following the operation. Salines were administered on the second day and secured a free movement from the bowels. The patient made an undisturbed recovery.

The case furnishes unimpeachable evidence that the uterine cavity can be invaded with perfect immunity even during the acute stage of purulent inflammation of the female

pelvis. There was only one point upon which he was yet undecided, and he desired an expression of opinion in regard to this—viz., was it advisable to wait until the patient had recovered from the first operation, or was it better to do a laparatomy immediately after the curettement! This case certainly proved that in acute peri-nterine disorders, where the cavity of the uterus contains the primary source of infection, the curette is indicated. He did not, however, wish to be understood as recommending to the tyro nor to the general practitioner the adoption of this method of treatment during acute pelvic inflammation, although it was the proper method in the hands of experts.

Dr. Boldt said that he differed somewhat with Dr. Krug in the position that he took, to the effect that the uterus could be curetted when there is acute pelvic inflammation, especially if this inflammation be of the suppurative variety. The case which had been recently reported very fortunately recovered, but he did not think that the practice was a safe one. He could not see the advantage of dilating and curetting the uterus and running the risk meanwhile of having pus sacs rupture intraperitoneally, and he thought it was much better to open the abdomen at once and afterwards do the curetting. At the present time he certainly would not advo-

cate such a procedure.

Dr. A. P. Dudley said that when Dr. Pryor had read his paper on this subject he had concurred with him in regard to the advantages of this mode of treatment, and had stated that he himself frequently curretted the uterus, applied carbolic acid, and then packed with gauze, and not only believed that it was a safe procedure, but he would even go so far as to do laparatomy at the same time, providing the patient bore the anesthetic well. Since the reading of Dr. Pryor's paper he had done this on three occasions. The first ease was one of complete procidentia, with the history pointing very strongly to extra-uterine pregnancy. He dilated the uterus and removed the remains of the placenta, then opened the abdomen, removed an ovarian cyst holding fourteen ounces of fluid, removed a hematoma from the opposite side, sewed both horns of the uterus to the abdominal wall, and packed the abdominal wound with gauze.

In the second case, which was one of membranous dysmenorrhea, he dilated, curetted, and packed the uterus, then performed abdominal section and found three folds of organized lymph, with fluid between each layer. In addition to this he found an extremely degenerated condition of the tubes. This afternoon he had just operated upon the third case, opening the abdomen, spearing two diseased ovaries of cystic degeneration, breaking up adhesions and affixing the

uterus afterwards, and then putting the patient on the side and sewing up the recto-vaginal fistula and closing the perineum with catgut. In all these cases he used chloroform, because he thought it was not well to use ether for so long a time

Dr. Pryor said that in pyo-salpinx, pure and simple, he advised curetting at the time a laparatomy was performed, provided the curetting were indicated at all. But in acute septic peritonitis with septic endometritis it was better to perform curetting first and wait some time before doing laparatomy. To do a laparatomy with a patient tympanitic, with high pulse rate and fever, the pelvic viscera being matted together with recent lymph, is but to attack the discase at its height. Whereas, if we remove the source of the sepsis by curetting, that continuous absorption of septic material upon which the outpouring of lymph is dependent will cease, and the peritoneum will absorb the lymph, leaving behind merely some sequelæ of the trouble—pyo-salpinx, hydro-salpinx, occluded tubes, or adhesions. He would like to ask Dr. Krug if his patient was not in better general and local condition when he did the section than at the time of the curetting. By postponing the laparatomy some time after the curetting, the stomach and bowels can be gotten into good condition. Dr. Prvor's cases and this one of Dr. Krug show very prettily how the temperature falls after this preliminary curetting, and when we do come to the laparatomy the patient is in a much improved condition. Dr. Prvor wished to emphasize the fact that the peritonitis in these cases was merely a protective inflammation, for the benefit of the individual, and tended to limit the absorption and extension of the septic process. He was exceedingly glad that the first to try his method was so conscientious an observer and skilful operator as Dr. Krug. He saw both operations, and can testify to the accurateness of the conditions described by Dr. Krug.

Dr. Mundé said that he had been much interested in the report of Dr. Krng's case, but he could not indorse the practice, for he saw no reason for using such a violent remedy as the curette must always be in conditions of subacute or acute pelvic inflammation; nor could he understand why the whole uterine cavity should be curetted at a time when this portion was no longer the source of danger, and when pus tubes were present in the abdomen it certainly seemed to him that the latter should be removed before directing attention to the uterus. The only condition in which he would be willing to dilate and curette the uterine cavity was when there was something in the uterus producing septic infection. Of course, under these circumstances, he would never hesitate to

dilate and clean out the uterus at any time, whether acute pelvic inflammation were present or not.

DR. GRANDIN said that where there is a septic focus in the uterus it is probably the source of extra-uterine sepsis, and here the curettement is eminently proper, and, in his opinion, it was proper to follow it at once by abdominal section.

Dr. Kree, in closing the discussion, said that it was perfectly in accord with good surgery, if a septic focus were present, to remove this before attacking the secondary conditions, and hence if there was a pus tube or an abscess in the ovary, and purulent disease in the pelvic cavity caused by septic material in the uterus, it was strictly indicated first to remove all such material from the uterus. If you take out the pus tubes, leaving such a condition as this still present in the uterine cavity, the septic matter will continue to spread and the germs to invade the neighboring organs. The removal of the tubes and ovaries leaves a raw surface which forms an excellent culture ground for sepsis, and the ligature does not shut off the germs which may pass from the uterus through the lymphatics. In a few cases where he had extirpated the tubes under these circumstances, but had not done a previous curetting of the uterus, the patients died from sepsis. He now attributed the disappointing result in these cases to the failure to curette the uterus first and so remove the original source of infection.

He felt quite confident that in a year or two this method of treatment would be as generally accepted and practised as the treatment of administering salines immediately after a laparatomy. He was still in doubt, however, in regard to the point raised by Dr. Dudley about the advisability of laparatomy following immediately upon a curettement. He thought much was to be said on both sides of this question. However, he was positive that his patient was in much better condition from the laparatomy a week after the curettement than she had been before, and in this connection the

temperature chart told volumes.

## A MODIFICATION OF DR. CLEVELAND'S OPERATING TABLE.

The President exhibited his new operating table for use in the Trendelenburg position, and he explained certain further modifications which his experience had shown desirable to make. Formerly the foot plate was swivelled directly on the frame. Now it was attached lower down, because he had found it necessary not only to flex the limbs but also the thighs in order to obtain the perfect Trendelenburg posture.

Dr. Kree thought the flexing of the thighs to a moderate degree was an advantage, but was not absolutely necessary. If

the thighs were much flexed and the patient doubled up too much, it was a disadvantage, as the knees were really in the way of the operator.

Dr. Edebohls said that he had secured all the relaxation and the advantages of the position by simply flexing the

knees.

OPERATION FOR PUERPERAL FEVER, WITH A REPORT OF TWO CASES.

Dr. Paul Outerbridge read a paper with the above title. In his opinion the usual cause of purperal fever is septic material introduced from without by the fingers of the attendants or the instruments. Our first duty is to cut off the supply of septic material, and, if the affection has not extended beyond the uterine cavity, intra-uterine cleansing is usually sufficient.

In these cases he would first make a thorough digital examination, and then, having thoroughly swabbed out the vagina with a small brush and tincture of green soap, he pulled down the uterus with a tenaeulum and cleansed its cavity with a cotton swab until this was perfectly clean on withdrawal. He then dipped the swab in bichloride of mercurv solution and completed the disinfection of this part. He next introduced a very long cylindrical probe and endeavored to pass it into the Fallopian tubes with the idea of determining whether these tubes were pervious or not. The patient was then given one ounce of Epsom salts, and if the stomach were irritable this dose was preceded by three or four minims of Magendie's solution, which usually enabled the patient to retain the salts. This was followed in one hour, if the bowels had not yet moved, by high stimulating enema. A free movement of the bowels was usually followed by a falling temperature and general improvement. He advised carrying out this treatment by swabbing with cotton at intervals of two, three, or four hours. If the bowels did not move freely and the symptoms continued to be serious, it was necessary to resort to more radical measures, such as he was about to describe. In his judgment vaginal douches might be given with impunity, but he regarded intra-uterine douches as dangerous, even where the precaution had previously been taken to ascertain whether the tubes were pervious or not. He then cited two cases illustrating his method of treatment.

Dr. Grandin did not see that anything was to be gained by swabbing out the uterus every hour. It was much better to employ a radical procedure from the start, especially where there was pus in the uterus. When confronted with purulent endometritis, curetting, thorough disinfection, and drainage should be resorted to at once, in preference to the method described by the author, as one of the dangers is the extension of the septic process through the tubes into the peritoneal cavity. These cases demand quick and radical treatment. He was convinced that when the septic focus had reached the peritoneal cavity immediate abdominal section offered the best hopes of recovery. He doubted very much if the cases of puerperal peritonitis treated by Dr. Alonzo Clark by his well-known opium treatment were really cases of purulent peritonitis. He thought they were serous peritonitis. In his early practice he had followed out this opium treatment. The results had been uniformly fatal. Then came a relaxation in favor of saline treatment, but the two cases which he had treated in this way had also terminated fatally. He believed that in the future the best results would be obtained from an abdominal section performed at an early stage. He had performed abdominal section three times and all three cases had died, for the reason that they had all been seen too late, the septic process having existed for from three to five days prior to his being permitted to operate.

Dr. Boldt had very serious doubts about the utility of opening the abdomen in general septic peritonitis. He could not see what was to be gained by opening the abdomen and tearing apart the agglutinated intestines, as this seemed to accomplish nothing but produce a condition of extreme shock and frequently death. Where there was a rapid accumulation of pus in the tubes, as in a case of unusually large pyo-salpinx—such, for example, as one reported by Mr. Tait containing nearly one quart of pus-abdominal section might do good. He thought the fluid found by the author in the abdominal cavity did not come from the tubes, but was only a serous exudation as a result of peritonitis. Again, we must bear in mind that it is exceedingly difficult to introduce a sound into the tubes. In fact, it is only in exceptional instances that this can be done. The vaginal douche in this case was of no use, and the intra-uterine douche should only be given once, and then thoroughly and skilfully, by the obstetrician himself. The first case reported in the paper, he believed, died as much from sepsis as though the operation had not been done, but in the second case the author was certainly to be congratulated on the result.

Dr. Ralph Waldo said that as house surgeon in the Maternity Hospital in this city he had passed through an epidemic of puerperal fever, and on looking over the records he had found that there were fourteen severe and undoubted cases of puerperal fever, four of which died. Autopsies were obtained in all these cases. In one the peritoneum was not

involved, but there was extensive diphtheria of the genitals, including the cavity of the uterus. In the other three there was extensive peritonitis, with varying quantities of pus in the peritoneal cavity. In one of these cases there was practically no distention of the abdomen, and yet there was fully as much pus in the peritoneal cavity as in the other cases. These patients had all been treated as follows: The bowels had been thoroughly emptied before and during labor. As soon as slight tenderness developed, accompanied by a rise of temperature, any decomposing material that might be present was removed, the cervix was dilated, the cavity of the uterus thoroughly curetted and then irrigated with a two-per-cent carbolic acid solution. An ice bag was then placed over the abdomen and the patients given sufficient morphine to keep them quiet. The bowels were not moved by cathartics. The patients were given stimulants and kept on a milk diet. Presumably, in a case of recovery, there was also pus in the abdomen.

Dr. A. F. Currier thought that perhaps we were placing too much reliance on the administration of salines. Owing to the insidious nature of puerperal fever it is very difficult to decide when an abdominal section is to be done, if at all, and he thought we must fall back on the old alternative of cleansing the uterus by the means suggested by the author, or by means of an intra-uterine douche or the performance of laparatomy. Personally he was not yet willing to give up the intra-

uterine douche.

Dr. Goffe believed that these cases should be attacked promptly and vigorously. As soon as the disease develops he makes a thorough examination, and, curetting the uterine cavity, swabs it out with bichloride solution. In one recent case he had packed with iodoform gauze and had been much pleased with the result. Until quite recently he had had very little faith in secondary laparatomies for septic peritonitis, but his opinion had undergone a slight change by the occurrence of one successful case. It was one of septic peritonitis following laparatomy, in which the abdomen was afterwards opened, the pus cavities thoroughly washed out, and the pelvis packed with iodoform gauze. In puerperal septicemia the danger arises from the fact that it rapidly becomes general, but if it remains at all localized an abdominal section holds out a fair prospect of success.

## Stated Meeting, March 15th, 1892.

The President, CLEMENT CLEVELAND, M.D., in the Chair.

SMALL OVARIAN CYSTS; PYO-SALPINX; PROFUSE AND PERSISTENT UTERINE HEMORRHAGES.

Dr. H. M. Sims presented some small ovarian cysts and a pyo-salpinx which he had removed from a woman, 36 years of age, who was the mother of one child 6 years old. She had been suffering for a long time from uterine hemorrhage, and had undergone a number of uterine curettings which had only been of temporary benefit. The last hemorrhage was continuous for thirty days, when it stopped spontaneously for a short time and then recurred for a period of four weeks. During the intervals of the flow there had been a profuse, purulent discharge from the vagina. When he first saw her about four weeks ago she was emaciated and greatly exsanguinated, and an examination showed that the uterus contained nothing which could give rise to such hemorrhages. He found two distinct tumors in the right ovarian region, which he thought represented a pyo-salpinx, with a constriction in the centre. An operation was advised and performed, and then it was found that these tumors were small ovarian cysts, combined with a large pyosalpinx containing about two drachms of pus. It was perfeetly movable and was easily removed. The ovary on the other side was enlarged and cystic. There had been no hemorrhages since the operation, and the patient's condition had steadily improved.

Dr. H. J. Boldt thought that it was the rule rather than the exception to have several hemorrhages in such cases.

Dr. G. M. Edebohls said that uterine hemorrhages in connection with ovarian and tubal diseases were a very frequent occurrence. As a remarkable illustration of this fact he reported the following case: A young girl, 20 years of age, had had almost continual uterine hemorrhages for three years, and was fast becoming a confirmed invalid, although originally quite robust. She had had her uterus thoroughly curetted by a competent man three times before she came under the speaker's care, yet the hemorrhages had only been controlled for about one week after the curetting. At the time he first saw her the uterus was retroverted in the second degree and the tubes and ovaries on both sides appeared to be normal. She was treated by positive galvanization, two sittings being given every week for six weeks, and the strength of the current being between fifty and one hundred milampères, yet with absolutely no effect upon the hemorrhage. Being somewhat puzzled about the case, he suggested the possibility that the slight prolapse of the ovaries which was present, by causing congestion, might give rise to these uterine hemorrhages. He proposed, therefore, to relieve the prolapse and the retroversion of the uterus by an Alexander's operation. This operation was performed four months ago, and since then, with the exception of a slight hemorrhage for two or three days at the end of the third month, there had been no bleeding of any kind, not even a menstrual flow. The chief point of interest in the case was the fact that these hemorrhages were apparently due to congestion resulting from this slight prolapse.

Dr. A. H. Buckmaster thought the good result might have been due after all to the electrical treatment, as sometimes the beneficial effects of electricity are slow in develop-

ing.

Dr. Edebohls replied that this could hardly be the explanation in his case, as she received electrical treatment for six weeks, and there was an interval of six weeks more before the operation was performed.

Dr. Sims also presented a specimen from a case of

#### TUBAL PREGNANCY.

The patient was a young woman, married only one year and a half, and had never been pregnant before this. When he saw her she had just passed the third menstrual period, and she presented at this time all the symptoms of pregnancy, including nausea and increase in the size of the uterus, and, even at that early stage, the secretion of milky fluid in the breast. Examination showed the uterus smaller than it should be at the third month of pregnancy, and on the left side there was a distinct and readily movable tumor which followed every movement imparted to the uterus. He concluded that the case was one of ectopic gestation. For about two weeks previous there had been occasional elevations of temperature as high as 102.5°, and, in fact, she had most of the symptoms of septic poisoning, so that an operation was deemed advisable. The fetus in this case had undoubtedly undergone degeneration and had formed quite a large pus sac in the Fallopian tube, the tube being about the size of a small orange and just on the point of rupture. The patient had so much adipose tissue, and the pedicle was so extremely thick, that he experienced great difficulty in bringing the tube out through the wound, and notwithstanding the most careful manipulation it ruptured at its fimbriated extremity and discharged about four or five ounces of very offensive pus into the abdominal cavity. The mass was rapidly clamped, the abdominal cavity washed out with boracic acid and hot water, but symptoms of septic peritonitis followed the operation and she died in three days.

Dr. W. M. Polk presented

TWO CASES OF PROCIDENTIA TREATED BY TOTAL EXTIRPATION OF THE UTERUS.

The operation of extirpation of the uterus for procidentia. he was well aware, was looked upon as rather radical, but his reason for doing it was that in this case procidentia was complete and that the woman had nearly reached the menopause. a time when the uterus would naturally undergo atrophy. The operation was done suprapulically rather than through the vagina below, because it afforded an opportunity for attaching the stump to the anterior abdominal wall and in that way sustaining the cystocele and rectocele. In cases of procidentia not so complete as this shown, hysterrorhaphy or Alexander's operation was of course the procedure which he would adopt. In completely extirpating the uterus the question of technique is one of some importance, for the reason that one is likely to encounter a great deal of hemorrhage from the vessels which supply the lower portion of the organ. He had found he could do the operation more quickly if he simply tied as he progressed. The uterus is drawn up, which brings the tissues through which the vessels come within easy reach, and by an incision on the side these vessels can be seized and ligated. The vagina can then be reached and the uterus removed more quickly than where the operator first attempts to ligate the uterine artery. He had presented his specimens with the idea of sustaining the claim recently made by Dr. Krug concerning the value of supravaginal hysterectomy in these cases and the ease with which this operation can be performed. All of his cases had made an almost afebrile convalescence. He had found it a great advantage to get rid of the upper part of the mass as soon as possible, because in this way the tension on the stump is diminished.

Dr. Edebohls thought that these two cases should be differentiated. One of them was a very large and heavy uterus, in which the removal of the entire organ for the cure of proceidentia was probably the correct procedure; but in the other case the uterus was not abnormally large, and hence, in his opinion, it would have been better to attempt a cure by other operative measures before resorting to the removal of the entire uterus.

THE PRESIDENT said that one year ago a woman had entered his service at the Woman's Hospital with complete procidentia and a large uterus which protruded outside of the body. There was also extreme bilateral laceration of the cervix. He sewed up the cervix with the intention of doing a further operation on the vagina subsequently, but she was called away from the hospital and did not return until one month ago. Yesterday she was etherized and he performed an anterior and posterior colporrhaphy, then a perineorrhaphy, after which she was placed in the Trendelenburg posture, the abdomen opened, and the uterus stitched to the abdominal wall. The operation lasted about two hours, rather longer than he thought was desirable, yet his patient was doing well. He requested Dr. Polk to state in what cases, after complete extirpation, he would stitch the stump. He agreed with Dr. Polk that where hysterectomy was necessary for large fibroids it was much better to remove the whole uterus than to leave a stump, either intraperitoneally or extraperitoneally.

Dr. H. C. Coe said that he had reported an operation in which he had resected about one-third of the vagina, and then brought down the stumps of the broad ligaments and sewed them into the vaginal wound and closed the vagina below. The result was about the same as in Dr. Polk's case. The retraction of the stumps pulled up the vagina. Previous to his doing this operation the patient had been submitted to anterior and posterior colporrhaphy, a cervix operation, an Alexander's operation, and an amputation of the cervix, all without

curing her condition.

Dr. Edebohls asked if Dr. Polk proposed to do a total extirpation of the uterus from above for small fibromata. We were in a transition stage in the treatment of these cases, and he desired to know Dr. Polk's personal views. He himself was very partial to total extirpation of the uterus for fibroma, but for the present he had drawn the line between large and small fibromata. In the latter class he still practised salpingooöphorectomy, believing it to be considerably less dangerous than total extirpation of the uterus, although the results from the latter operation were continually improving. He had just removed a uterus with three fibromata in its walls, together with the tubes and ovaries. The total weight of the mass was six and one-half pounds. He had done this operation without any amputation of the uterus above the cervix, simply tying each broad ligament until he reached the vagina, and then cutting around and tying off the vagina and so removing the uterus in one mass. By first packing the vagina with antiseptic gauze we avoid the risk connected with cutting the cords of the cervix, and even in a case of large tumors it is better, if possible, to remove the whole mass entire. Where a large part of the tumor is removed before the cervix, it is a wise precaution to observe the direction of the uterine canal, and then a very large part of the mass can be removed at once.

Dr. Boldt asked if, in cases where the uterus was small enough to be removed through the vagina, Dr. Polk would

still insist upon its removal from above.

Dr. Polk, in closing the discussion, said that the operation in itself would be unnecessary but for the large amount of slack existing in these cases of complete procidentia, and in order to get rid of this slack he removed the entire uterus. It was essential that the vagina should be long enough to be easily attached to the anterior abdominal wall, and in order to gain sufficient tissue he dissects off the outer covering of the uterus downward from the middle portion of its body. This enables him to hold the anterior vaginal wall up and so prevent the occurrence of cystocele. He thought he would be inclined to take out the entire uterus, even in cases where the symptoms were due to the presence of small fibromata, in spite of the fact that much had been said in favor of the use of electricity and similar methods of treatment. He knew that this was a much-disputed point and that there were many who opposed total extirpation of the uterus, even for more grave conditions; but he saw no reason why it should not be done, in view of the brilliant success of modern abdominal surgery. He saw no more objection to doing this than to completely removing the uterine appendages, and it should be attended by an equally small mortality. It was particularly on account of this position which he took that he had brought forward the specimens to elicit a full discussion. He also wished it to be remembered that four of his cases were operated upon at a public clinic under conditions which not long ago would have been considered extremely dangerous. In the class of cases referred to by Dr. Boldt he thought the pain would be found to be due to retention of the menstrual blood, and that dilatation and curetting would usually give relief. Ordinarily, where the uterus was small enough to be removed through the vagina, the symptoms were not such as to warrant extirpation of the organ.

VAGINAL HYSTERECTOMY FOR MALIGNANT DISEASE INVOLVING THE UTERUS AND A PORTION OF THE VAGINA.

Dr. Polk presented specimens from a case of this kind which was of no special interest except as an illustration of the method he advocated when the vagina was involved to any great extent in malignant diseases. In this case the posterior and lateral walls were involved in the disease. The plan which he had adopted was to cut out the vagina fully one and one-half inches below the womb and then dissect out the vaginal walls in a circular manner. Of course, wherever vessels were encountered which led into the diseased tissue, there would be very free hemorrhage, but this could usually be controlled without

difficulty. Having reached the base of the tumor, the technique is not different from that which is usually followed in these operations. In the removal of the uterus it is a great mistake to have any preconceived plan as to mode of operation, except it be as to control of hemorrhage and the method to be adopted in cleaning out the canal.

Dr. Polk presented a specimen of fibro-cystic tumor and

one of fibroma with an intraligamentary cyst.

A SUPPOSED BONY NODULE IN AN OVARY-A CORRECTION.

Dr. H. C. Coe said that at a recent meeting of the Society he had presented an ovary containing what he had supposed to be a bony nodule. He had had this examined subsequently by Dr. Welch, of Johns Hopkins University, and he had reported that it was not a bony nodule, but simply an instance of calcification of an old corpus luteum.

REMOVAL OF A MULTILOCULAR OVARIAN CYST, INVOLVING A SEC-ONDARY LAPARATOMY; A NOVEL METHOD OF FACILITATING ABDOMINAL DRAINAGE.

Dr. J. D. Emmer said that he had recently operated in the Woman's Hospital on a case of multilocular ovarian cyst, being assisted in the operation by Dr. Buckmaster and the house staff. The patient was 49 years old, a widow, in fair general health. An examination of the urine just before the examination showed it to have a specific gravity of 1.017, an acid reaction, and to contain a trace of albumin, with mucous and epithelial cells. The daily quantity of urine was normal. The operation was performed on February 24th, and at this time her tumor measured eighty by seventy-four by sixty-two centimetres in its various circumferences. It was composed of a number of secondary cysts, the larger ones containing as much as two quarts of limpid fluid. In the other cyst colloid degeneration had occurred to such an extent that the trocar was useless. The pedicle was tied in two sections and the tumor removed about two inches from its attachment. The abdomen was then closed with silver wire. Reaction was good.

At 3 P.M. on the day following the operation the patient became very restless and complained of feeling weak. At 8 P.M. pulse weak and gaseous, patient delirious, the urine normal. At 11:30 P.M. pulse weaker, face drawn and pinched, lips blue, and the patient suffering great thirst. Diagnosis was somewhat puzzling at this time, as the symptoms might indicate hemorrhage, acute sepsis, or both. He thought best to reopen the abdomen, and this was done at 12, midnight, February 25th. Lymph was found to be thickly spread over

the sutures in the stump, but there was no hemorrhage and no peritonitis. Suspecting the alarming symptoms to be due to the beginning of septicemia, he determined to drain the abdomen by means of gauze and a tube. He accordingly packed gauze around and on top of the stump in two strips, which he brought out of the wound. A tube not being immediately at hand, it occurred to him to apply the principle of artificial fistula, which had been introduced many years ago by his father. He desired to prevent the intestines pressing upon the gauze and choking drainage. He brought the edges of the peritoneum and skin together by two silkworm sutures. The result was that the skin was drawn down to meet the peritoneum. The patient reacted well after the operation, yet the pulse, respiration, and temperature remained high for four days, when they gradually returned to normal and remained so until March 3d.

On March 1st the urine was examined and found to have a specific gravity of 1.017, an acid reaction, and to contain one-eighth of one per cent of albumin. Under a microscope granular epithelial casts and renal epithelium were found for the first time.

On March 3d the temperature rose, but fell after the administration of a cathartic. There were muttering delirium and restlessness, and the daily quantity of urine increased

from about twenty-five to nearly fifty ounces.

On March 4th the urine was very carefully examined, and the quantity for the preceding twenty-four hours was seventy ounces. The urine was yellow and turbid, and somewhat putrid in odor. It had an alkaline reaction and contained by weight one-quarter of one per cent of albumin. There was no sugar. The quantity of phosphates was normal, and there were eight grains of urea to the fluidounce. A few pus corpuscles were found and considerable vaginal and renal

epithelium.

On March 6th the patient became partially comatose, and died March 7th in profound coma. The symptoms of uremic coma were first recognized distinctly on March 5th. The wound throughout the progress of the case remained in perfectly normal condition. The autopsy was made on March 8th by the pathologist, Dr. George C. Freeborn. Heart and lungs were found to be normal; the operation wound showed good union; the peritoneum was congested and covered with fresh exudate; the liver was normal in size but congested; both kidneys were large and congested, and their capsules were adherent. Microscopical examination showed extensive areas of chronic diffuse nephritis, with exudations and evidence of acute exacerbation. The small intestine and the colon were covered with fresh exudate. The walls of the

pelvic cavity, as well as the contents of the organs, were also covered with this exudate. The pathologist considered that death resulted from chronic diffuse nephritis and a general recent peritonitis, the latter probably being due to uremic

poisoning:

From the foregoing history it is evident that the secondary laparatomy was entirely unnecessary, although it must be admitted that the symptoms seemed to fully justify such a procedure. The method which he had adopted for keeping open for drainage had proved to be simple and efficient, and, he thought, was a novel procedure.

Dr. H. M. Sims thought this method of securing drainage a very ingenious one, and one which should prove efficient, except perhaps in deep cavities. The history of the case was that commonly found in cases where the administration of ether had caused a congestion of the kidney and an attack of acute nephritis.

Dr. A. F. Currier had been interested in the enormous increase in the quantity of urine which had been noted shortly before death. Such a condition could not be expected in

chronic nephritis.

Dr. Coe said that the subject of uremia after laparatomy was particularly interesting to him, because while he was pathologist of the Woman's Hospital he had met with many cases of obscure death associated with disease of the kidney. Many of the cases of death which were formerly attributed to uremia he was now more inclined to believe were due to sepsis. It was possible that in the case reported there might have been an obscure septic element which did not make itself evident by adhesions. The quantity of the urea compared with the daily quantity of urine secreted was certainly not what one would expect in such a case of uremia. He thought it was exceptional to meet with a successful result after a secondary laparatomy, the patients usually dying from shock.

Dr. J. R. Goffe looked upon the case as one of septic trouble, and in a number of cases where autopsies had been made and there had not been sufficient evidence to make it absolutely certain that there was sepsis, some complication of the kidney had been found. He thought we were too ready to ascribe death after a laparatomy to some other cause than peritonitis. In the case just reported the disease was rather acute, and yet the quantity of urine and urea excreted showed that the kidneys were performing their function fairly well. This winter he had had one successful case of secondary laparatomy for septic peritonitis. The operation was done forty-eight hours after the first laparatomy, the patient having at that time a temperature of 103.5.° Considerable pus was evac-

nated, the abdominal cavity was washed out, and the pelvis packed with iodoform gauze. The patient made an uninterrupted recovery. He must admit, however, that it was the only case of the kind that he had seen or heard of where such a successful result had been obtained.

Dr. Polk said that, in regard to the method of drainage just described, the only criticism he had to offer was in regard to the amount of gauze employed to secure proper drainage, It seemed to him better to use a larger amount of gauze; if necessary, to fill the entire pelvis with it. In every case of septic peritonitis, no matter what its origin, the only method of treatment was the open method; and the larger the opening, barring the escape of the viscera, the better would be the result, and this means that an abundance of gauze must be used and ample space left around it in every direction. If the dressings are properly applied they will prevent the escape of the viscera through the opening. When the usual gauze for packing was not at hand it was well to remember that a towel which had been dipped into a 1:150 solution of bichloride of mercury and then placed in a tub of hot water would answer the purpose equally well, and it had the merit of being always obtainable.

Dr. Emmer, in closing the discussion, said that the case might just as well be considered one of scarlet fever or measles as one of sepsis, as there was nothing except the appearance of the patient and the temperature to indicate such a condition. The drainage was free and the dressings remained perfectly sweet, and the pathologist said that there had been no sepsis for three days previous to her death. The temperature, pulse, and respiration were nearly normal, and this certainly would be very unusual in a fatal case of sepsis. In the last stages of chronic diffuse nephritis the quantity of urine was usually very much increased, while the amount of albumin was quite small owing to the fact that most of the epithelial cells had been washed out of the kidney, and consequently there was but little secreting surface left. He had used a large quantity of gauze in packing the pelvis, but he had only brought out the two ends through the abdominal wound.

#### A REPORT OF SEVEN CASES OF PROGRESSIVE ASTHENIA, THE RESULT OF CHILD-BEARING.

Dr. J. G. Perry read a paper with the above title. The cases which formed the subject of his paper represented a class which were particularly obstinate of treatment and proved very annoying to the family physician. Their main feature was the extreme loss of vital power, which did not usually become a prominent factor in the case until after the birth of the second child. The term "asthenia" better represents this loss of power than neurasthenia, which only implies impaired nerve power. A superficial observer would consider these cases instances of hysteria, but this term did not by any means represent the true condition, although undoubtedly hysteria complicated many of the cases. They are characterized first by a commencing atrophy of the pelvic cellular tissue, probably due to arrested involution, then by mental derangement which is notably increased by the approach of each menstrual period, and may, if unchecked, develop at the termination of pregnancy into puerperal mania. It has a slow development and is marked by periods of exacerbation. The object of his paper was to establish the fact that certain women, from causes unknown, in the natural process of childbearing suffer a loss of vitality which results in a fatty degeneration which cannot be arrested by any known method of treatment. As a result of this atrophy the pelvic organs lose their natural supports and certain mental phenomena are provoked. The following cases illustrated the nature of this diseased condition.

Mrs. B. called to see him on November 5th, 1878. She is the mother of two boys and she is absurdly alarmed about their future. Since the birth of her first child she has never felt well. There was nothing worthy of note occurring subsequent to this delivery, except, as she expressed it, "convalescence had never ended." She was unable to nurse either of her children, not on account of an insufficient supply of milk, but because of exhaustion which it produced. Locomotion was almost impossible on account of a sense of dragging and exhaustion which it produced. The family physician, as well as a number of other physicians, had repeatedly told her that there was nothing the matter with her. Menstruation was regular and not painful, yet at such times she felt distinctly worse and became quite despondent. Examination of the urine showed it to be of rather low specific gravity, feebly acid in reaction, and containing a small quantity of urea. physical examination showed no enlargement of the uterus. The vaginal walls were attenuated; the uterus was slightly lower than normal, but did not descend any further when the patient was in a standing position. Pessaries had been tried, but had been found to only aggravate her condition. He advised a cessation of all further efforts at relief from medical treatment, and especially enjoined her to avoid becoming pregnant again. She had never been pregnant since that time, and had been able to adjust her life to her condition, but she had not much improved.

Mrs. W. consulted him in 1882. She had borne two living

children, the first one when she was 26 years old, the second one at the age of 28. She had felt perfectly well up to her first confinement. Her youngest child was 19 years old, yet since his birth she had not been able to walk without assistance, and walking caused a distressing sense of weight in the pelvis, accompanied by severe backache. Menstruation was fairly regular and without pain, but all her symptoms became exaggerated at these periods, and she became gloomy and despondent, would shut herself up in her room and would refuse food, and she had on two occasions even threatened her husband's life. In the intervals of menstruation she was gentle and considerate in her disposition. Physical examination revealed nothing of moment. She was subjected to the "rest" cure for eight months and became somewhat more tractable, but was not much improved in her general condition. She was taken to the country and led an outdoor life, but one year later she wrote the author a most violent letter, in which she denounced him as being responsible for all her woes and expressed her determination to become pregnant again. She did so, and in due time was delivered of a feeble, strumous child, which at the age of 4 years developed joint disease and died at the age of 6 years.

Mrs. F., 44 years of age, had had four children and two miscarriages, the latter having been self-induced. She was well until after the birth of her second child. At this time she had a very tedious labor, and after this was unable to resume her accustomed household work. There was temporary improvement, lasting for several months, and then she again became pregnant. She had another protracted labor, and sustained severe laceration of the perineum which was promptly repaired by operation, but the old sense of dragging and headache returned. It was at this time that the author first saw her. The pupils were dilated, the pulse small and feeble, heart sounds extremely weak. The uterus was low down in the pelvis, but not tender. The abdominal walls were extremely lax—"attenuation" best expresses the condition present. She was found to be again pregnant. She was given iron and cod-liver oil internally, and an enema of five gallons of oxygen gas daily. These enemata invariably strengthened the pulse and improved her appetite and general condition. They required to be given more carefully as pregnancy advanced, because they sometimes provoked labor pains. After the birth of the child all her old symptoms returned. The perineum was closed by operation, the vaginal wall narrowed, and abdominal supports employed, together with the use of massage, but all to no purpose.

Dr. Currier thought that the cases reported evidently indicated that certain women were congenitally deficient in vitality.

It was evident that these cases were beyond the reach of modern surgery. To be sure, some might think that these cases were likely to be improved by Battey's operation, but, as these patients showed deficient nerve development, he did not see how an operation which hastened the occurrence of the menopause could be expected to benefit them.

DR. J. H. Gunning had had four or five cases analogous to those described in the paper, and found them to yield to electrical treatment combined with the use of oxygen. He had employed chain galvanization, one pole being applied to the head and the other to the pit of the stomach. He had also employed static electricity from the base of the brain to the

end of the spine.

Dr. J. D. Emmer wished to enter a strong protest against the position taken by Dr. Currier that we should fold our hands and do nothing for this class of cases, for we all saw just such cases, especially in the upper classes. He thought all the cases described in the paper presented typical symptoms of laceration of the cervix and prolapsed uterus, causing an overfilling of the pelvic blood vessels—in short, a condition of things which is cured every day by treatment directed towards securing adequate support of the pelvic vessels, supplemented by a reparative operation upon the cervix.

Dr. Buckmaster had found that his cases had derived much benefit from a systematic use of physical training under the guidance of an experienced teacher, and he had been accustomed to send such patients to Dr. Savage, who had made a

special study of this subject.

Dr. Polk said that it was perfectly true that pelvic surgery did not cure many of these cases, and it was certainly very embarrassing and discouraging, after performing these various operations, to find that the patients had not been benefited by them. The preceding speaker had touched upon one of the most important points in the treatment, viz., judicious physical training, which accomplishes much in the way of getting these patients out of their condition of invalidism. If they could be persuaded that they have strength enough to make certain exertions, they will make them, with results which are almost astonishing. One must resort to a species of scientific "mind cure" to be successful in the treatment of these cases. The administration of the oxygen was also of the utmost value, whether there was any marked anemia present or not, it being administered with the sole object of securing better absorption of the iron and cod-liver oil which were given internally in connection with this treatment. General faradization and static electrization, when used, will accomplish but little, but when given in conjunction with the remedies just mentioned they produce all the good results which had been claimed for them by Dr. Gunning.

842 ITEMS.

Dr. Perry, in closing the discussion, said that he had necessarily omitted from his paper many details. In the treatment of these cases he thought he had exhausted everything, except perhaps the use of static electricity. He had tried physical culture faithfully under the guidance of the most experienced teachers. He had not considered these cases examples of hysteria, as most of them were strong both in mind and character, but they had been overcome from the loss of vitality which had come on in connection with child-bearing. He endeavored in one case to test this question of hysteria, and, as he believed if a woman were hysterical she was a fit subject for hypnotism, he had tried upon her hypnotic suggestion as an example, and it had required one week to get her at all under control, and then when she finally took the suggestion that she was a perfectly well woman she went out and walked the whole morning and with the most disastrous results to herself. He wished to particularly emphasize his belief that these cases were not hysterical, but that they had a special predisposition to this peculiar condition. The cases reported had, with one exception, been operated upon by other surgeons and the operations had been skilfully performed. He had purposely selected these cases to show how powerless operations were to give relief to these unfortunate persons.

## ITEMS.

- 1. The second annual meeting of the American Electro-THERAPEUTIC Association will be held in New York, October 4th, 5th, and 6th, 1892, at the New York Academy of Medicine, 17 West 43d street.
- 2. The Mississippi Valley Medical Association will hold its eighteenth annual session at Cincinnati, Wednesday, Thursday, and Friday, October 12th, 13th, and 14th, 1892.
- 3. The following gentlemen have been appointed as delegates to the International Congress of Gynecology and Obstetrics, which commences in Brussels September 14th: Charles A. L. Reed, of Cincinnati, O., and Lewis S. McMurtry, of Louisville, Ky., to represent the American Association of Gynecology and Obstetries; and Lawson Tait, Granville Bantock, A. S. Simpson, and Robert Barnes, to represent the British Gynecological Society. Great preparations are being made to entertain visiting physicians. For particulars address Dr. F. Henrotin, American Secretary, 353 La Salle avenue, Chicago, Ill.

## INDEX TO VOLUME XXV.

A

| Abdominal operations, cases requiring, in the service of Dr. J. F. W. Ross at the Toronto General Hospital during the sum- |           |
|--|-----------|
| mer of 1891  | 189       |
| mer of 1891surgery, who shall do? Werner   | 636       |
| Abortion, criminal, a singular case of. Caruso   | 431       |
| habitual. McKee  | 816       |
| in retroflexed uteri, treatment of. Stone  | 363       |
| incomplete, the treatment of, at Roosevelt Hospital. Locke,  | 92        |
| self-induced, by a glass rod; subsequent removal of the rod  | 200       |
| from the abdominal cavity by laparatomy. Wylie the treatment of. Bonifield   | 690<br>81 |
| Abortions, repeated, a small intra-uterine myoma the cause of. Currier,  |           |
| repeated, and their prevention. Schuhl   | 273       |
| Abscess of the ovary, uncomplicated with pyo-salpinx on the same side;   | ~.0       |
| parietal abscess; abdominal section; recovery. Reed  | 811       |
| Address, President's, Alumni Association of the Woman's Hospital,  |           |
| New York. Dudley   | 365       |
| Albuminuria and nephritis of pregnancy, therapy in. Mynlieff   | 271       |
| Amenorrhea, congenital, and vicarious menstruation. Withrow, 164,  | 225       |
| Amputation of the vaginal portion of the cervix uteri in cases of sus-   | 376       |
| pected carcinoma. Currier  | 910       |
| with special reference to hematoma. Foerster 577,  | 675       |
| Angioma of the liver. Hanks  | 229       |
| Antipyretic effects of antipyrine, quinine, and warm baths in new-born   |           |
| children with fever, comparison between the. Eröss   | 272       |
| Antipyrine, suppression of milk following the administration of.   |           |
| Guibert  | 285       |
| Antiseptics, the action of, upon the peritoneum. Delbet and Marcel   | 417       |
| Apnea neonatorum. Waxham   | 790       |
| of the uterus treated by. Parsons  | 548       |
| Appendages, uterine, remote results of the removal of the. Richelot  |           |
| uterine, removal of the, for hystero-epilepsy. Boldt   | 520       |
| uterine, the surgical treatment of diseased. Morison   | 136       |
| Asepsis, a letter to my assistant on the methods of securing, in the pre-  |           |
| paration of instruments, ligatures, and dressings in my  |           |
| private office. Kelly  | 184       |
| and antisepsis in obstetrical practice. Seymour337,  | 3/4       |
| of obstetrics, the, as practised in Finland for twenty years.  | 197       |
| Pippingsköld   | 1.00      |
| cases of. Perry.   | 838       |
| cases of. Perry  | 782       |
|  |           |

|  | AGE  |
|--|------|
| Banga. On the principles of the treatment of uterine displacements1  | , 64 |
| Bettmann. Premature labor and the new-born child   | 315  |
| Bissell. A podencephalous monster  | 487  |
| Blanc. Dystocia due to the presence of a uterine fibroid   | 133  |
| Boldt. Removal of the uterine appendages for hystero-epilepsy  | 520  |
| Suppurative oöphoritis   | 232  |
| Bone, an ovary containing a nodule of. Coe   | 246  |
| Bonifield. The treatment of abortion   | . 81 |
| Bony nodule in an ovary, a supposed—a correction. Coe  | 835  |
| Börner. Etiology and therapy of weak labor pains in old primipara  | 267  |
| Bossi. The use of hydrastis canadensis in obstetrics   | 129  |
| Box for carrying sterilized gauze. Cleveland   | 691  |
| Box for carrying sterilized gauze. Cleveland Bozeman. Accidental uretero-vaginal fistula following hysterectomy; |      |
| cure by uretero-cystotomy; gradual preparatory treat-  |      |
| ment and button suture   | 546  |
| Drain and bag for use in vesico vaginal fistula  | 544  |
| Irrigating apparatus for use in vesico-vaginal fistula   | 543  |
| Brief of current literature  | 708  |
| Brief of current literature  | 98   |
| Buckmaster. Antiseptic pocket ligature jar   | 514  |
| Buckmaster. Antiseptic pocket ligature jar   | 511  |
| Bumm. A histological examination of puerperal endometritis   | 268  |
| Byford. Cases of extra-uterine pregnancy; abdominal section; re-   | ~00  |
| marks upon treatment   | 77   |
| Vaginal oöphorectomy   | 795  |
| aginar oophorecomy   | 100  |
|  |      |
| C  |      |
|  |      |
| Calcareous mass, a, taking the place of the left ovary. Cleveland  | 395  |
| Cancer of the cervix, palliative treatment in. Potherat  | 286  |
| of the cervix, vaginal hysterectomy for. Hallvaginal hysterectomy for. Cushing                                   | 813  |
| vaginal hysterectomy for. Cushing  | 516  |
| Cancerous uterus removed by vaginal hysterectomy. Martin   | 74   |
| Carcinoma of the uterus; myomata; laparo-vaginal hysterectomy; death from intestinal paralysis. Edebohls         |      |
| death from intestinal paralysis. Edebohls  | 819  |
| suspected, amputation of the vaginal portion of the cervix   |      |
| uteri in cases of. Currier   | 376  |
| Carcinomatous uterus removed by vaginal hysterectomy. Janvrin  | -98  |
| Caruso. A singular case of criminal abortion   | 431  |
| Catheter, the ureteral. Kelly  | 768  |
| Catheter, the ureteral. Kelly  | 529  |
| pelvic, in the female, induration following, and its treatment   |      |
| by galvanism. Sanders  | 289  |
| by galvanism. Sanders  |      |
| venaint  | 429  |
| venaint  | 286  |
| uteri, epithelioma of the removed by vaginal hysterectomy.   |      |
| Edebolils  | 820  |
| uteri, lacerations of the, note on. Hewitt   | 378  |
| Cesarean section: absolute indication: placenta previa. Sligh  | 221  |
| Edebohls   |      |
| tion for? Rosenberg. 360   | 787  |
| tion for? Rosenberg  |      |
| tion for? Sligh  | 653  |
| tion for? Sligh  | 380  |
| Chorea, a case showing the behavior of the pregnant uterus in. Hicks,  | 258  |
| et epilepsia gravidarum: a clinical study. Marx  | 649  |
| gravidarum McCann  | 116  |
| gravidarum. McCann   | 110  |
|  |      |
| Fraisse  | 135  |

|               |  | PAGE |
|---------------|--|------|
| Cleveland.    | A box for carrying sterilized gauze  | 691  |
|               | A calcareous mass taking the place of the left ovary   | 395  |
|               | A modification of Dr. Cleveland's operating table  | 826  |
|               | Cleveland's operating table for Trendelenburg posture.   | 107  |
|               | Cleveland's operating table for Trendelenburg posture<br>Curetting the uterus for acute general pelvic peritonitis   | 10.  |
|               | following abortion   | 521  |
|               | following abortion   | 0.41 |
|               | in the pedicle and   | FQ.4 |
|               | in the uterus  | 524  |
|               | Papilloma of both ovaries and of the omentum   |      |
|               | Papilloma of the ovary and ovarian cyst  | 394  |
|               | Recto-vaginal laceration during parturition, with rapid  |      |
|               | repair of the injury   | 86   |
|               | Supplementary report on a case of papilloma of the ovary   | 523  |
|               | Thick-walled multilocular cyst of the right ovary  | 523  |
| Coe. A larg   | ge ovarian cyst with a twisted pedicle   | 392  |
| Anos          | vary containing a nodule of hone   | 246  |
| A sun         | Tary containing a nodule of boneposed bony nodule in an ovary—a correction   | 835  |
| Punti         | are of the uterus; hysterectomy; death   | 600  |
| Town          | and of the many  | 000  |
| Cala          | onade of the diefus  | 010  |
| Cole. A ch    | meal record: ectopic gestation ?   | 90   |
| Complication  | a following laparatomy, an unusual. Dudley   | 943  |
| Congenital s  | onade of the uterus nical record: ectopic gestation? n following laparatomy, an unusual. Dudley yphilis, on maternal conditions in. Nunn   | 566  |
| Conservative  | e gynecology, not enough—too many needless mutilations.  |      |
| Doléris.      |  | 130  |
| Constant cur  | rrent, the action of the, upon the uterus. Prochownick   |      |
| and Spa       | eth  | 270  |
| Corpus luteu  | ethum, elongated ovaries showing a formation closely resem-  |      |
| bling a       | true. Sims   | 254  |
| Couder. Pr    | otection of the perineum during the expulsion of the trunk,  | 281  |
| Cragin. A     | papilloma secondary to intraligamentous cyst   | 597  |
| Crodé Corl    | Sigmund Fronz In monorium Poconborg  | 790  |
| Crofford I    | Siegmund Franz. In memoriam. Rosenberg   | ~1   |
| Cronord, 1    | aparatomy needle   | 71   |
| Curatulo.     | distological researches and chuical study of the afterations   |      |
|               | terine mucous membrane due to the presence of tumors, and  |      |
| a contri      | bution to the study of the origin of the cellular elements   |      |
| of the d      | eciduae uterus as an operation preliminary to laparatomy. Pryor.   | 124  |
| Curetting th  | ie uterus as an operation preliminary to laparatomy. Pryor.  | 254  |
| th            | ne uterus for acute general pelvic peritonitis following   |      |
|               | abortion. Cleveland  | 521  |
| Currier, A    | abortion. Clevelandsmall intra-uterine myoma, the cause of repeated abortions,   | 393  |
| Aı            | mputation of the vaginal portion of the cervix uteri in cases  |      |
|               | of suspected carcinoma   | 376  |
| In            | of suspected carcinomatestinal anastomosis and Dawbarn's potato plates   | 106  |
| Cushing X     | Jacob hystoractomy for cancer 122  | 516  |
| Cret o lorge  | Vaginal hysterectomy for cancer  | 200  |
| Cyst, a large | de la composition della compos | 040  |
| intrai.       | igamentous, a dried specimen of an. Krugt ovary, multilocular; fibroids in the pedicle and in the  | 248  |
| or len        | ovary, multilocular; fibroids in the pedicle and in the  |      |
| u             | terus. Cleveland   | 524  |
| multi         | locular ovarian, removal of a. involving a secondary lapara-   |      |
| to            | omy; a novel method of facilitating abdominal drainage.  |      |
| E             | Cmmet  | 835  |
| of the        | e right ovary, thick-walled multilocular. Cleveland  | -523 |
| ovaria        | in, multilocular. Martin   | - 73 |
| Cystic ovari  | les. Janvrin   | 98   |
| Cystoma, su   | es. Janvrin<br>ppurating intraligamentous; unilateral chronic pelvic peri-   |      |
| tonitis:      | secondary salpingitis and appendicitis; extensive lacera-  |      |
|               | the cervix and perineum; curettement, trachelorrhaphy,   |      |
| removal       | of the cyst, tube, and appendix at one sitting; recovery.  | ,    |
| Edebob        | le   | 821  |
| Crete overi   | lsan, small; pyo-salpinx; profuse and persistent uterine hem-  | 021  |
| Oysis, ovaria | an, sman, pyo-sarpinx; profuse and persistent uterine nem-   | 690  |
| namin         | orrhages. Sims<br>netritic, of inflammatory origin. Schmitt  | 10   |
| perm          | actific, of inhamiliatory origin. Schmitt  | 10   |

| D  |   |
|--|---|
| Davis. The preventive treatment of mastitis  | 662<br>417<br>135<br>384<br>384<br>364<br>383<br>259<br>12<br>548<br>64<br>421<br>509<br>542<br>145<br>237<br>795<br>365<br>109 |
| T.   |   |
| Ebermann. Endoscopy and therapy in affections of the female urethra, Ectopic gestation, a case of. Stone | 509<br>90<br>27<br>229<br>515<br>207<br>235   |
| Epithelioma of the cervix uteri removed by vaginal hysterectomy  | 826   |
| Fatty tumors of the omentum simulating fibromata of the uterus.  |   |

|             | PAC   | GE          |
|-------------|---|-------------|
| Edebohls.   | Hematoma of the ovary diagnosticated by exploratory   | o.≈         |
|             | puncture  | 85          |
|             | fibroma   | 35          |
|             | Pyo-salpinx; intraperitoneal abscess; extensive adhesions, necessitating removal of the uterus 8                      | 21          |
|             | Salpingo-ophorectomy for double pyo-salpinx; pressure   |             |
| ,           | perforation of the sigmoid flexure by glass drainage tube; intestinal fistula; cure of fistula by abdomino-           |             |
| ,           | vaginal through drainage; intestinal obstruction by   |             |
|             |   | 97          |
|             | culosis of the tubes and ovaries; tubercular enteritis  |             |
|             | following the operation; ulceration and perforation of  |             |
|             | the ascending colon, with fecal fistula Suppurating intraligamentous cystoma; unilateral chronic                      | 96          |
|             | pelvic peritonitis; secondary salpingitis and appendi-  |             |
|             | pelvic peritonitis; secondary salpingitis and appendicitis; extensive laceration of the cervix and perineum;          |             |
|             | curettement, trachelorrhaphy, removal of the cyst, tube, and appendix at one sitting; recovery                        | 21          |
|             | Unilateral tubercular pyo-salpiux   | 95          |
| Electricity | and massage in gynecology. Temeváry 1   | .23         |
| Electro-the | See also Constant current.  erapy in cases of myoma, the effects of. Martin and                                       |             |
| Macke       | nrodt   | 563         |
|             | ubercular salpingitis, with cases treated by operation 1<br>A large uterine fibroma showing cystic degeneration, pos- | 71          |
|             | sibly the result of galvanic treatment 2  | 251         |
|             | Removal of a multilocular ovarian cyst, involving a secondary laparatomy; a novel method of facilitating abdominal    |             |
|             |   | 385         |
|             | drainage  | 00=         |
| Endometri   | diseases of women   | 365         |
|             | 1 ouvename 4  | 129         |
|             | puerperal, a histological examination of. Bumm Septic, with peritonitis, and their treatment by means                 | 268         |
|             | of the curette and antiseptic drainage. Pryor   | 598         |
| Endoscony   | the treatment of. Waldo   | 375<br>56.1 |
| Epilepsia ( | y and therapy in affections of the female urethra. Ebermann tet chorea gravidarum: a clinical study. Marx             | 642         |
| Epithelion  | na of the cervix uteri removed by vaginal hysterectomy.   | 200         |
| Eröss. Co   | omparison between the antipyretic effects of antipyrine, qui-   | S20         |
| nine,       | and warm baths in new-born children with fever  | 272         |
| Eruption of | on the face, a peculiar, associated with menstruation. Ede-   | 235         |
| Extraperit  |   | 402         |
| Extra-uter  | rine gestation, on the alleged growth of the placenta in, after   | 721         |
|             |   | 559         |
|             | pregnancy, case of, terminating by ulceration into the  |             |
|             | intestine. Morrill  | 99          |
|             | treatment. Byford   | 77          |
|             | pregnancy, three specimens of. Krug   | 249         |
|             | pregnancy, tumor of. Krugpregnancy. Winter  | 34          |
|             | pregnancy, Winterpregnancy, with rupture into the peritoneal cavity at  |             |
|             | about the fifth week; operation; recovery. Hall   | 87<br>426   |
|             | pregnancy. Wyder  |             |
|             | pregnancy, see also Ectopic, Ovarian, Tubal, etc.   |             |

|   | AGE               |
|---|-------------------|
| Fatty tumors of the omentum simulating fibromata of the uterus.   | 000               |
| Edebohls, Fenwick. Poliomyelitis anterior, or infantile paralysis348.   | 235               |
| Fever, puerperal, operation for, with a report of two cases. Outer-   | 900               |
| bridge  | 827               |
| bridge scarlet, notes on the treatment of. Joynt Fibroid, multiple, with cyst of the left ovary embedded in the broad                               | 139               |
| Fibroid, multiple, with cyst of the left ovary embedded in the broad  |                   |
| ligament. Martin  | 74                |
| ligament. Martin  | 74                |
| of the uterus. Hall   | 813               |
| of uterus, multiple abdominal section for. Jones  | 808<br>72         |
| polypus. Watkins an extraordinary case of   | 12                |
| tumor of many years' existence, an extraordinary case of twisting of the uterus as the pedicle of a large. Homans,                                  | 339               |
| tumor, total extirpation of the uterus for large. Hall  |                   |
| ntoning distance due to the precence of a Plane   | 199               |
| Fibroids, uterine, three submucous. Murray  Fibroma, a large uterine, showing cystic degeneration, possibly the result of galvanic treatment. Emmet | 92                |
| Fibroma, a large uterine, showing cystic degeneration, possibly the   |                   |
| result of galvanic treatment. Emmet   | 251               |
| and other morbid conditions of the uterus treated by Apos-  | F10               |
| toli's method, twenty cases of. Parsonsuteri, salpingo-oöphorectomy for; incipient tuberculosis of  | 548               |
| the tubes and ovaries; tubercular enteritis following the   |                   |
| operation; ulceration and perforation of the ascending  |                   |
| colon, with fistula. Edebohls   | 96                |
| Fibromata, ovarian, total extirpation versus leaving the stump in opera-  |                   |
| tions for. Krug   | 239               |
| Fibromyoma, the etiology of. Prochownick  | 565               |
| Fistula, intestinal, as a complication in laparatomy, the prevention and  | 101               |
| treatment of. Morrill   | 101               |
| uretero-cystotomy; gradual preparatory treatment and  |                   |
| button suture. Bozeman  | 546               |
| vesico-vaginal, drain and bag for use in. Bozeman   | 544               |
| vesico-vaginal, irrigating apparatus for use in. Bozeman  | 543               |
| Fistule, fecal, following laparatomy; or, some accidents which have attended the progress of gynecology during the past ten                         |                   |
| attended the progress of gynecology during the past ten   | 110               |
| years. Dudleyvesico-uterine, treatment of. Herff.   | $\frac{145}{268}$ |
| Floating kidney and diseases of the generative organs in the female.  | 200               |
| Schmitt   | 538               |
| Schmitt Foerster. Clinical and microscopical analysis of twenty-five extirpated   |                   |
| ovaries, with special reference to hematoma   | 675               |
| Forceps for holding and drawing up the uterus during laparatomy.  |                   |
| Hanks   | 401               |
| intra-uterine packing. Garrigues 61,  | 260               |
| Fraisse. Cicatrices of the cervix, due to cauterization, complicating   | 302               |
| labor   | 135               |
|   |                   |
| G   |                   |
| Calasta cacusa con la caca de la Carrière   | 90#               |
| Galactagogue, galega as a. De la Carrière   | 285               |
| Garrigues, Intra-uterine packing forceps  | 507               |
| Garrigues. Intra-uterine packing forceps  | 691               |
| Gebhard. Sublimate intoxication   | 999               |
| Gérard. Drainage of the uterus  | 421               |
| Gilmer. Three cases of tubo-abdominal pregnancy   | 545               |
| Goffe. A very large inguinal omental hernia containing the colon and  | 219               |
| Stomatili   | OIC               |

| Goffe. Differentiation of cellulitis from peritonitis   | 529        |
|---|------------|
| Left tube and ovaryGonorrheal affection of the mucous membrane of the mouth in the  | 236        |
| new-born. Rosinski  | 118        |
|   | 531        |
|   | 207        |
| Grandin. Clinical contribution to the subject of ectopic gestation  | 27         |
| Note on the manual rectification of occipito-posterior posi-  | 6~0        |
| tions   | 0.2        |
| pyrine  | 285        |
| Guyon. The operation of lithotrity upon women   | 428        |
| Gynecic notes taken among the American Indians. Holder  | 102        |
|   |            |
| Н   |            |
| Habitual abortion. McKee  | 815        |
| Hagedorn needles, modified. Nelson  | 73         |
| Hall. Extra-uterine pregnancy, with rupture into the peritoneal cavity at about the fifth week; operation; recovery           | 87         |
| Fibroid of the uterus   | 812        |
| Pus tubes Total extirpation of the uterus for large fibroid tumor   | 677        |
| Total extirpation of the uterus for large fibroid tumor   | 819<br>812 |
| Vaginal hysterectomy for cancer of the cervix   | G12        |
| laparatomy  | 401        |
| Angioma of the liver  | 229        |
| Lysol   | 692        |
| after the death of the fetus.   | 721        |
| Harris. The blended Tocci brothers and their historical analogues   | 460<br>54  |
| Harrison. Otorrhea and its consequences   | 04         |
| bohls   | 685        |
| Hemato-salpinx simulating ectopic pregnancy. Price  | 338        |
| Hemorrhage, accidental, in a case of premature labor due to hydramnion. Sligh   | 651        |
| Henoch. Chronic peritonitis in children   | 563        |
| Henry. Torsion of the neck in vertex presentations  | 423        |
| Herff. Treatment of vesico-uterine fistulæ  | 205        |
| uterus and sterility and abortion   | 259        |
| The relation between backward displacements of the uterus   | ~40        |
| and prolonged hemorrhage after delivery and abortion<br>Hernia, a very large inguinal omental, containing the colon and stom- | 548        |
| ach. Goffe  | 818        |
| Herrick. Operative procedures in uterine displacements490.  | 508        |
| Herzfeld. A case of ovarian pregnancy coincident with normal uterine  | 557        |
| pregnancy; laparatomy; recovery.  Hewitt. Note on laceration of the cervix uteri  | 378        |
| Hicks. A case showing the behavior of the pregnant uterus in chorea,  | 258        |
| Hoffman. Ectopic gestation; its comparative symptomatology and  | 515        |
| treatment   | 562        |
| Holder. Gynecic notes taken among the American Indians  | 752        |
| Homans. An extraordinary case of twisting of the uterus as the pedicle of a large fibroid tumor of many years' existence.     | 339        |
| Hydramnion, accidental hemorrhage in a case of premature labor due  | 000        |
| to. Sligh   | 651        |
|   |            |

|  | PAGE |
|--|------|
| Hydrastinin. Strassman   | 557  |
| Hydrasus canadensis in obstetrics, the use of Bossi  | 129  |
| Hysterectomy, abdominal, the treatment of the pedicle in. Martin, 745,                               | 500  |
| vaginal, for malignant disease involving the uterus and  | 004  |
| a portion of the vagina. Polkvaginal, cancerous uterus removed by. Martin                            | CZ4  |
| vaginal, cancerous iterus removed by. Martin   | 00   |
| vaginal, carcinomatous uterus removed by. Janvrin  | 98   |
| vaginal, for cancer. Cushing433, vaginal, for cancer of the cervix. Hall                             | 010  |
| Hypetone enilones, my experience with eighterestems for the cure of                                  | 012  |
| Hystero-epilepsy, my experience with oöphorectomy for the cure of.                                   | 454  |
| Mundéremoval of the uterine appendages for. Boldt  | 204  |
| Hystoropovy a new method of Metlokovski  | 020  |
| Hysteropexy, a new method of. Matlakowski  | 201  |
|  |      |
|  |      |
| I  |      |
| Tabeliaral in farmala discourse absorptions in reference to the use of                               |      |
| Ichthyol in female diseases, observations in reference to the use of.                                | 000  |
| Öberth   | 267  |
| Inclined plane, the use of the. Aveing   | 783  |
| plane, the, as an important aid in the treatment of diseases of                                      | 00=  |
| women. Emmet   | 365  |
| plane, the benefits of the—too many needless mutilations.  | =00  |
| Robinson   | 502  |
| Incontinence of urine cured by massage of the urethra and neck of the                                | 009  |
| bladder, two cases of. Narich  | 283  |
| Indians, American, gynecic notes taken among the. Holder   | 752  |
| Induced premature labor followed by death, report of a case of.                                      | 0~0  |
| Zinke Induration following pelvic cellulitis in the female, and its treatment by galvanism. Sanders. | 679  |
| induration following pervic centifities in the female, and its treatment                             | 000  |
| Inquired emental harris a warm large containing the color and store                                  | 289  |
| Inguinal omental hernia, a very large, containing the colon and stom-                                | 818  |
| ach. Goffe   |      |
| In memoriam, Carl Siegmund Franz Credé. Rosenberg  | 780  |
| Intermenstrual pain, periodical. Palmer  | 389  |
| fistula as a complication in laparatomy, the prevention and  | 106  |
| treetment of Morrill   | 101  |
| treatment of. Morrill  | 101  |
| minal agrainame. Mal can   | 687  |
| minal carcinoma. McLean  | 248  |
| cystoma, suppurating; unilateral chronic pelvic peri-  | ~10  |
| tonitis; secondary salpingitis and appendicitis;   |      |
| extensive laceration of the cervix and perineum;   |      |
| curettement, trachelorrhaphy, removal of the   |      |
| cyst, tube, and appendix at one sitting; recov-  |      |
| ery. Edebohls  | 821  |
| Intra-uterine packing forceps. Garrigues   | 507  |
| tamponade, two cases of Oui  | 287  |
| tamponade, two cases of. Oui   | 543  |
| Items  | 842  |
| 100, 100, 100,   | 014  |
|  |      |
| J  |      |
|  | 000  |
| Jaggard. A specimen of complete decidua vera enclosing the ovum                                      | 662  |
| Janvrin. Carcinomatous uterus removed by vaginal hysterectomy  | 98   |
| Cystic ovaries   | 98   |
| Double catarrhal salpingitis: abscess of the right ovary: old  | =00  |
| hematoma of the left ovary   | 526  |

| Janvrin. Primary sarcoma of the broad ligament?  | $\begin{array}{c} 380 \\ 808 \end{array}$                                |
|--|--|
|  |  |
| K  |  |
| Kelly. A letter to my assistant on the methods of securing asepsis in the preparation of instruments, ligatures, and dressings in my private office.  Disinfection by potassium permanganate and oxalic acid The ureteral catheter.  Kerley. Vicarious menstruation.  Kidney, floating, and diseases of the generative organs in the female. Schmitt.  Kleinwächter. Prolapse of the female urethra.  Knee, congenital dislocation at the. McGillicuddy.  Krug. A dried specimen of an intraligamentous cyst.  Double pyo-salpinx, ovarian abscess; curettement during acute pelvic inflammation; subsequent laparatomy; recovery  Three specimens of extra-uterine pregnancy.  Total extirpation versus leaving the stump in operations for                               | 783<br>184<br>364<br>768<br>89<br>538<br>269<br>383<br>248<br>822<br>249 |
| L  |  |
| pains, weak, in old primiparæ, etiology and therapy of. Börner.  premature, and the new-born child. Bettmann.  Laceration, recto-vaginal, during parturition, with rapid repair of the injury. Cleveland.  Lacerations of the cervix uteri, note on. Hewitt.  Laparatomy, an unusual complication following. Dudley.  curetting the uterus as an operation preliminary to.  Pryor.  hypostatic pneumonia following. Dudley.  needle. Crofford.  specimens from a series of eleven cases of. Martin.  Laubenburg. Leucemia and pregnancy.  Lefour. A new method for the retention of intra-uterine stem pessaries.  Leucemia and pregnancy. Laubenburg.  Ligature jar, antiseptic pocket. Buckmaster.  Lipoma of the omentum simulating intraligamentary fibroma. Edebohls. | 71<br>657<br>561<br>128<br>561<br>544<br>235                             |
| Literature, current, brief of  | 428  |

| Lysol, a new antiseptic. Vondergoltz   | 228<br>699                        |
|--|-----------------------------------|
| М  |                                   |
| Malignant disease involving the uterus and a portion of the vagina, vaginal hysterectomy for. Polk   | 498<br>417<br>78<br>74            |
| Supposed pyo-salpinx  The treatment of the pedicle in abdominal hysterectomy745,   | 74                                |
| Martin and Mackenrodt. The effects of electro-therapy in cases of myoma  Marx. Chorea et epilepsia gravidarum: a clinical study  | 563<br>642                        |
| Clinical observations on occipito-posterior vertex presentations, Massage and electricity in gynecology. Temeváry.  Mastitis, the preventive treatment of. Davis   | $\frac{123}{537}$                 |
| Matlakowski. A new method of hysteropexy.  McCann. Chorea gravidarum  McGillicuddy. Congenital dislocation at the knee.  McGinnis. Dysmenorrhea and its treatment.  McKee. Habitual abortion.  775,  McLean. A small tumor in the rectum of an adult associated with | $\frac{383}{109}$                 |
| McLean. A small tumor in the rectum of an adult associated with prolapse and fissure   | 247                               |
| Papilloma of the left ovary with very dense adhesions  Menstrual flow. retention of, for six months, due to occlusion of the vagina. Mesnard  Menstruation, a peculiar eruption on the face associated with. Ede-  | 525<br>429                        |
| bohls vicarious, congenital amenorrhea and. Withrow164, vicarious, during pregnancy. Norton vicarious. Kerley Mesnard. Retention of menstrual flow for six months, due to occlu-   | 235<br>225<br>218<br>89           |
| sion of the vagina   | 429<br>271                        |
| bert  Monster, a podencephalous. Bissell.  Monti. A few observations in regard to the examination of human milk.   | 285<br>487<br>271                 |
| Morison. The surgical treatment of diseased uterine appendages  Morrill. Case of extra-uterine pregnancy terminating by ulceration into the intestine  | 136<br>99                         |
| cation in laparatomy   | 101                               |
| new-born. Rosinski   | <ul><li>118</li><li>454</li></ul> |

|  | PAGE              |
|--|-------------------|
| Mundé. Parturient rupture of vaginal vault into the peritoneal cavity  | 010               |
| recovery.  The surgical treatment of extraperitoneal pelvic effusions  Murray. Glass pessary in the vagina twenty-five years  Gonorrheal vaginitis, its complications and treatment  | 92<br>531         |
| Three submucous uterine fibroids  Mutilations, too many needless—not enough conservative gynecology.  Doléris  too many needless. Keith  too many needless. Robinson  Mynlieff. Therapy in albuminuria and nephritis of pregnancy  | 130<br>783<br>785 |
| Myoma, a small intra-uterine, the cause of repeated abortions. Currier   |                   |
| the effects of electro-therapy in cases of. Martin and Macken- rodt  | 563               |
|  |                   |
| N  |                   |
| Narich. Two cases of incontinence of urine cured by massage of the urethra and neck of the bladder.  Neck, torsiou of the, in vertex presentations. Henry.  Needle, laparatomy. Crofford Marcy's pedicle. Nelson.  Needles, modified Hagedorn. Nelson.  Nelson. Improper use of a pessary Marcy's pedicle needle. Modified Hagedorn needles. Retractors.  Nephritis and albuminuria of pregnancy, therapy in. Mynlieff.  Nilsen. Probable superfetation; protracted gestation; difficult labor; forceps delivery; partial inversion of the uterus; septicemia; erysipelas.  Norton. Vicarious menstruation during pregnancy. |                   |
| Nunn. On maternal conditions in congenital syphilis  | 566               |
| O  |                   |
| Oberth. Qbservations in reference to the use of ichthyol in female diseases  Obstetrical practice, asepsis and antisepsis in. Seymour  | 267<br>374<br>427 |
| minal carcinoma. McLean  | 672               |
| Old primiparae, etiology and therapy of weak labor pains in. Börner. Olshausen. Puerperal psychoses. Omentum, fatty tumors of the, simulating fibromata of the uterus. Edebohls  | 267               |
| lipoma of the, simulating intraligamentary fibroma. Ede-<br>bohls  | 235               |
| for the cure of hystero-epilepsy, my experience with.  Mundé   | 454               |
|  |                   |

|   | PAGI |
|---|------|
| Oöphoritis, suppurative. Boldt  | 233  |
| Otorrhea and its consequences. Harrison   | 54   |
| Otorrhea and its consequences. HarrisonOui. Extra-uterine pregnancy with rupture of the cyst; recovery                                      | 420  |
| Two cases of intra-uterine tamponade  | 287  |
| Outerbridge. Operation for puerperal fever, with a report of two  |      |
| cases   | 827  |
| Ovarian cyst, multilocular, removal of a, involving a secondary lap a-  |      |
| Ovarian cyst, multilocular, removal of a, involving a secondary lap a-<br>ratomy; a novel method of facilitating abdominal drain-           |      |
| age. Emmet cyst, multilocular. Martin. cyst, with a twisted pedicle, a large. Coe cysts, small; pyo-salpinx; profuse and persistent uterine | 833  |
| cyst, multilocular. Martin  | 78   |
| cyst, with a twisted pedicle, a large. Coe  | 392  |
| cysts, small; pyo-salpinx; profuse and persistent uterine   |      |
| hemorrhages. Sims   | 83 ( |
| fibromata, total extirpation versus leaving the stump in opera-   |      |
| tions for. Krug   | 239  |
| pregnancy coincident with normal uterine pregnancy, a case of;  |      |
| laparatomy; recovery. Herzfeld  | 557  |
| Ovaries, clinical and microscopical analysis of twenty-five extirpated,   |      |
| with special reference to hematoma. Foerster577,  | 675  |
| cystic. Janyrin   | 98   |
| elongated, showing a formation closely resembling a true cor-   |      |
| pus luteum. Sims.   | 254  |
| pus luteum. Sims. papilloma of both, and of the omentum. Cleveland  | 395  |
| Ovary, a calcareous mass taking the place of the left. Cleveland a supposed bony nodule in an—a correction. Coe                             | 395  |
| a supposed bony nodule in an—a correction. Coe  | 835  |
| abscess of the uncomplicated with pyo-salpinx on the same   |      |
| side; parietal abscess; abdominal section; recovery. Reed,  | 810  |
| and left tube. Goffe  | 236  |
| containing a nodule of bone. Coe  | 246  |
| and left tube. Goffe  |      |
| Edebohls multilocular cyst of left; fibroids in the pedicle and in the  | 685  |
| multilocular cyst of left; fibroids in the pedicle and in the   |      |
| uterus. Člevelandpapilloma of the, and ovarian cyst. Cleveland  | 524  |
| papilloma of the, and ovarian cyst. Cleveland   | 394  |
| papilloma of the left, with very dense adhesions. McLean  | 525  |
| papilloma of the left, with very dense adhesions. McLean papilloma of the, supplementary report on a case of. Cleveland,                    | 523  |
| thick-walled multilocular cyst of the right. Cleveland  | 528  |
|   |      |
|   |      |
|   |      |
| P   |      |
| To 14 A   |      |
| Packing forceps, intra-uterine. Thomas  | 362  |
| Pain, periodical intermenstrual. Palmer   | 389  |
| Palmer. Periodical intermenstrual pain328,  | 389  |
| Palmer. Periodical intermenstrual pain  | 527  |
| of both ovaries and of the omentum. Cleveland   | 395  |
| of the left ovary with very dense adhesions. McLean   | 525  |
| of the ovary and ovarian cyst. Cleveland  | 394  |
| of the ovary, supplementary report on a case of. Cleveland,   | 523  |
| Paralysis, infantile, or pollomyelitis anterior. Fenwick348,  | 386  |
| Parsons. Twenty cases of fibroma and other morbid conditions of the   |      |
| uterus treated by Apostoli's method.  | 548  |
| Pedicle in abdominal hysterectomy, the treatment of Martin 745,   | 800  |
| Pelvic cellulitis in the female, induration following, and its treatment  |      |
| by galvanism. Sanders   | 289  |
| effusions, extraperitoneal, the surgical treatment of. Mundé  | 402  |
| Pelvis, pus in the, the natural history of. Price   | 735  |
| Perimetritic cysts of inflammatory origin. Schmitt  | 18   |
| Permeorrhaphy, with especial reference to Mr. Tait's flap method—a  |      |
| comparison of other methods Robinson 617 (  | 664  |

|  | PAGE |
|--|------|
| Perineum, protection of the, during the expulsion of the trunk. Couder,        | 281  |
| Peritoneum, the action of antiseptics upon the. Delbet and Marcel              | 417  |
| Peritonitis, chronic, in children. Henoch                                      | 563  |
| Peritonitis, chronic, in children. Henoch                                      | 529  |
| following abortion, curetting the uterus for acute general                     |      |
| pelvic, Cleveland  | 521  |
| pelvic. Clevelandpuerperal, a case of, treated by amputation of the uterus;    |      |
| recovery. Smith  | 43   |
| Perry. A report of seven cases of progressive asthenia, the result of          |      |
| child-bearing  | 838  |
| child-bearing  | 198  |
| Pessary, glass, in the vagina twenty-five years. Murray                        | 92   |
| improper use of a Nelson   | 63   |
| improper use of a. Nelson  | 00   |
| and pregnancy  | 114  |
| and pregnancy  | 114  |
| twenty goers   | 40~  |
| twenty years   | 427  |
| r facenta, on the aneged growth of the, in extra-uterine gestation after       | P01  |
| the death of the fetus. Hart   | 721  |
|  | 221  |
| previa with rigid os, is it an absolute indication for Cesarean                | 200  |
| section? Rosenbergprevia with rigid os. is it an absolute indication for Cesa- | 360  |
| previa with rigid os, is it an absolute indication for Cesa-                   |      |
| rean section? Sligh  | 653  |
| separation of the, report of a case of partial, causing acci-                  |      |
| dental hemorrhage during pregnancy and premature de-                           |      |
| livery. Suter  | 215  |
| Plane, inclined, the use of the. Aveling                                       | 782  |
| inclined, the benefits of the—too many needless mutilations.                   |      |
| Robinson   | 502  |
| the inclined, as an important aid in the treatment of diseases of              |      |
| women. Emmet   | 365  |
| Pneumonia, hypostatic, following laparatomy. Dudley                            | 237  |
| Podencephalous monster, a. Bissell   | 487  |
| Podencephalous monster, a. Bissell   |      |
| fibroids; extensive attachment, necessitating hysterectomy.                    | 689  |
| Supplementary report on removal of the tubes without both                      |      |
| ovaries  | 528  |
| Two cases of procidentia treated by total extirpation of the                   | 0.00 |
| uterus   | 832  |
| Vaginal hysterectomy for malignant disease involving the                       | 002  |
| uterus and a portion of the vagina   | 834  |
| Poliomyelitis anterior, or infantile paralysis. Fenwick348,                    |      |
| Polypus, fibroid. Watkins  | 72   |
| Potassium permanganate and oxalic acid, disinfection by. Kelly                 | 364  |
| Potherat. Palliative treatment in cancer of the cervix                         | 286  |
|  | 561  |
| at the age of 59, a case of. Depasse   | 135  |
| the diagnosis of, between the second and eighth weeks by                       | 100  |
|  | 384  |
| Prometure labor and the new horn shild Rettmann                                | 315  |
| Premature labor and the new-born child. Bettmann                               | 910  |
| labor, induced, followed by death, report of a case of.                        | 020  |
| Zinke  | 079  |
| Presentations, occipito-posterior vertex, clinical observations on. Marx,      | 111  |
| Price. Drainage in abdominal work.   | 116  |
| Hemato-salpinx simulating ectopic pregnancy                                    | 333  |
| The natural history of pus in the pelvis                                       | 735  |
| Prochownick. The etiology of fibromyoma  | 565  |
| Prochownick and Spaeth. The action of the constant current upon the            |      |
| uterus   | 270  |

| I  | AGE  |
|--|--|
| Procidentia treated by total extirpation of the uterus, two cases of.  |  |
| Polk   | 832  |
| Prolapse of the female urethra. Kleinwächter   | 269  |
| Prophylaxis in puerperal affections. Hofmeier  | 562  |
| Pryor. Curetting the uterus as an operation preliminary to lapara-   |  |
| tomy   | 254  |
| Portable gynecological table   | 99   |
| Septic endometritis with peritonitis, and their treatment by   | -  |
| means of the curette and antiseptic drainage   | 598  |
| Psychoses, puerperal, Olshausen  | 272  |
| Psychoses, puerperal. Olshausen Puerperal affections, prophylaxis in. Hofmeier. endometritis, a histological examination of. Bumm  | 562  |
| endometritis a histological examination of Rumm  | 268  |
| fever, operation for, with a report of two cases. Outer-   | ~00  |
|  | 827  |
| peritonitis, a case of, treated by amputation of the uterus;   | 041  |
| recovery Smith   | 43   |
| recovery. Smith  |  |
| psychoses. Olshausen   | 272  |
| Purpura nemorrhagica, the innuence of, upon menstruation and preg-   |  |
| naucy. Phillips  Pus in the pelvis, the natural history of. Price  | 114  |
| Pus in the pelvis, the natural history of. Price   | 735  |
| tubes. Hall  | 677  |
| Pyo-salpinx and abscess of the ovary mistaken for uterine fibroids; ex-  |  |
| tensive attachments necessitating hysterectomy. Polk,  | 689  |
| double; ovarian abscess; curettement during acute pel-   |  |
| vic inflammation; subsequent laparatomy; recovery.   |  |
| Krug   | 822  |
| Krugdouble, salpingo-oöphorectomy for; pressure perforation  |  |
| of the sigmoid flexure by glass drainage tube; intesti-  |  |
| nal fistula; cure of fistula by abdomino-vaginal   |  |
| through drainage intestinal obstruction by bands   |  |
| through drainage; intestinal obstruction by band; colotomy; death. Edebohls  | 97   |
| intraperitoneal abscess; extensive adhesions, necessitating  | 01   |
|  | 001  |
| removal of the uterus. Edebohls  |  |
| supposed. Martiu   | 74   |
| tubercular double, with miliary tuberculosis of the peri-  |  |
| toneum; secondary operation for tubercular infiltration  | 0.6  |
| of the cicatrix, later fecal fistula. Edebohls   | 96   |
| unilateral tubercular. Edebohls  | 95   |
|  |  |
|  |  |
|  |  |
|  |  |
| ${ m R}$   |  |
|  |  |
|  |  |
| Recto-vaginal laceration during parturition, with rapid repair of the  |  |
| Recto-vaginal laceration during parturition, with rapid repair of the injury. Cleveland  | 86   |
| Recto-vaginal laceration during parturition, with rapid repair of the injury. Cleveland  | 86   |
| injury. Cleveland  |  |
| injury. Cleveland  | 86<br>247  |
| injury. Cleveland  | 247  |
| injury. Cleveland  | 247<br>811   |
| injury. Cleveland  | 247  |
| injury. Cleveland  | 247<br>811<br>12                                   |
| injury. Cleveland  | 247<br>811<br>12<br>429                            |
| injury. Cleveland  | 247<br>811<br>12<br>429<br>73                      |
| injury. Cleveland  Rectum, a small tumor in the, of an adult, associated with prolapse and fissure. McLean  Reed. Abscess of the ovary, uncomplicated with pyo-salpinx on the same side; parietal abscess; abdominal section; recovery  The surgical treatment of anterior displacements of the uterus, Retention of menstrual flow for six months, due to occlusion of the vagina. Mesnard  Retractors. Nelson  Retroflexed uteri, treatment of abortion in. Stone  | 247<br>811<br>12<br>429<br>73<br>363               |
| injury. Cleveland.  Rectum, a small tumor in the, of an adult, associated with prolapse and fissure. McLean.  Reed. Abscess of the ovary, uncomplicated with pyo-salpinx on the same side; parietal abscess; abdominal section; recovery.  The surgical treatment of anterior displacements of the uterus, Retention of menstrual flow for six months, due to occlusion of the vagina. Mesnard.  Retractors. Nelson.  Retroflexed uteri, treatment of abortion in. Stone.  Reviews. Davis. A Manual of Practical Obstetrics. | 247<br>811<br>12<br>429<br>73                      |
| injury. Cleveland  | 247<br>811<br>12<br>429<br>73<br>363<br>553        |
| injury. Cleveland  | 247<br>811<br>12<br>429<br>73<br>363               |
| injury. Cleveland  | 247<br>811<br>12<br>429<br>73<br>363<br>553<br>262 |
| injury. Cleveland  | 247 811 12 429 73 363 553 262                      |

|   | PAGE      |
|---|-----------|
| Reviews. Hirst. Human Monstrosities   | 261       |
| Martin. Pathology and Therapeutics of the Diseases of   |           |
| Women   | 260       |
| Pozzi. Treatise on Gynecology, Medical and Surgical.  |           |
| Translated from the French edition under the supervi-   |           |
| sion of, and with additions by, Brooks H. Wells   | 700       |
| Reynolds. Practical Midwifery: A Handbook of Treatment,   | 552       |
| Reynolds. Practical Midwifery: A Handbook of Treatment,<br>Sutton. Surgical Diseases of the Ovaries and Fallopian |           |
| Tubes, including Tubal Pregnancy Thomas and Mundé. A Practical Treatise on the Diseases                           | 705       |
| Thomas and Mundé. A Practical Treatise on the Diseases  |           |
|   | 411       |
| of Women Transactions of the American Association of Obstetricians  |           |
| and Gynecologists, Vol. IV  | 555       |
| Transactions of the American Gynecological Society, 1891  | 554       |
| Richelot. Remote results of the removal of the uterine appendages   | 126       |
| Rigid os with placenta previa, is it an absolute indication for Cesarcan  |           |
| section? Rosenberg  | 787       |
| Robinson. Perineorrhaphy, with especial reference to Mr. Tait's   |           |
| flap method—a comparison of other methods614,   | 664       |
| The benefits of the inclined plane — too many needless  |           |
| mutilations   | 502       |
| Too many needless mutilations   | 785       |
| Rosenberg. In memoriam, Carl Siegmund Franz Credé   | 780       |
| Rosenberg. In memoriam, Carl Siegmund Franz Credé   |           |
| for Cesarean section ? 360,   | 787       |
| Rosinski. Gonorrheal affection of the mucous membrane of the mouth  |           |
| in the new-born   | 118       |
| Ross, cases requiring abdominal operations in the service of Dr. J. F.  |           |
| W., at the Toronto General Hospital during the summer of 1891   | 189       |
| Rupture of the uterus; hysterectomy; death. Coeparturient, of vaginal vault into the peritoneal cavity; recov-    | 682       |
| parturient, of vaginal vault into the peritoneal cavity; recov-   |           |
| ery. Mundé  | 815       |
|   |           |
|   |           |
|   |           |
| S   |           |
|   |           |
| Salpingitis, double catarrhal; abscess of the right ovary; old hema-  | ~ ~ ~     |
| toma of the left ovary. Janvrin   | 936       |
| severe forms of. Wylietubercular, with cases treated by operation. Elliot   | 399       |
| tubercular, with cases treated by operation. Elliot   | 1.1       |
| Salpingo-oöphorectomy for double pyo-salpinx; pressure perforation  |           |
| of the sigmoid flexure by glass drainage  |           |
| tube; intestinal fistula; cure of fistula by  |           |
| abdomino-vaginal through drainage; in-  |           |
| testinal obstruction by band; colotomy;   | 97        |
| death. Edebohls   | 97        |
| for fibroma uteri; incipient tucerculosis of the  |           |
| tubes and ovaries; tubercular enteritis   |           |
| following the operation: ulceration and   |           |
| perforation of the ascending colon, with  | 96        |
| fecal fistula. Edebohls   | 90        |
| Sanders. Induration following pelvic cellulitis in the female, and its  | 980       |
| treatment by galvanism  | 289<br>98 |
|   | 139       |
|   | 100       |
| Schmitt. Floating kidney and diseases of the generative organs in the   | 522       |
| female Perimetritic cysts of inflammatory origin  | 18        |
|   | 273       |
|   | 511       |

|  | AGE               |
|--|-------------------|
| Separation of the placenta, report of a case of partial, causing accidental  |                   |
| Septic endometritis with peritonitis, and their treatment by means of  | 215               |
| the curette and antiseptic drainage. Pryor   | 598               |
| Seymour. Asepsis and antisepsis in obstetrical practice357, Since Florested granica showing a formation closely recombling | 374               |
| Sims. Elongated ovaries showing a formation closely resembling a   | 254               |
| true corpus luteum   | ~01               |
| rine hemorrhages   | 830               |
| Tubal pregnancy  | 831               |
| Tubal pregnancy  | 074               |
| hydramnion   | 651               |
| Cesarean section?  | 653               |
| Placenta previa; Cesarean section; absolute indication   | 221               |
| Smith. A case of puerperal peritonitis treated by amputation of the  |                   |
| uterus; recovery   | 43                |
| Spaeth and Prochownick. The action of the constant current upon  | 0~0               |
| the uterus   | 270               |
| Lefour.  | 128               |
| 2.000  | 493               |
| Stone. A case of ectopic gestation   | 509               |
| Treatment of abortion in retroflexed uteri   | 363               |
| Strassman. Hydrastinin   | 557               |
| Sublimate intoxication. Gebhard Superfetation, probable; protracted gestation; difficult labor; forceps                    | 999               |
| delivery; partial inversion of the uterus; septicemia; erysipelas.   |                   |
| Nilsen   | 692               |
| Suter. Report of a case of partial separation of the placenta, causing   |                   |
| accidental hemorrhage during pregnancy and premature delivery.   | 215               |
| Sutures, length of time they should be left in the cervix. Waldo<br>Syphilis, congenital, on maternal conditions in. Nunn  | 105               |
| Syphins, congenitar, on maternal conditions in. Num  | 000               |
|  |                   |
|  |                   |
| T  |                   |
|  | 000               |
| Table, a modification of Dr. Cleveland's operating. Cleveland  | 826               |
| Cleveland's operating, for Trendelenburg posture. Cleveland. portable gynecological. Pryor                                 | 99                |
| Tamponade, intra-uterine, two cases of. Oui  |                   |
| of the uterus. Coe   | 370               |
| Temeváry. Electricity and massage in gynecology  | 123               |
| Thomas. Intra-uterine packing forceps  | 362               |
| Tocci brothers, the blended, and their historical analogues. Harris  | $\frac{460}{423}$ |
| Torsion of the neck in vertex presentations. Henry Touvenaint. The treatment of cervical endometritis by interstitial in-  | 4.0               |
|  | 429               |
| Tubal pregnancy. Sims  | 831               |
| Tube, left, and ovary. Goffe   | 236               |
| Tubercular pyo-salpinx, double, with miliary tuberculosis of the peri-   |                   |
| toneum; secondary operation for tubercular infiltration  | 96                |
| of the cicatrix, later fecal fistula. Edebohls   | 95                |
|  | 171               |
| Tubes, removal of the, without both ovaries, supplementary report on.  |                   |
| Polk   | 528               |
| Tubo abdominal pregnancy, three cases of. Gilmer   | <b>5</b> 45       |
| I wishing of the interus as the dedicte of a large horoid tumor of many  | 339               |

| _   | AGE   |
|---|---|
| Urine, incontinence of, cured by massage of the urethra and neck of the bladder, two cases of. Narich  Uterine appendages, remote results of the removal of the. Richelot appendages, removal of the, for hystero-epilepsy. Boldt appendages, the surgical treatment of diseased. Morrison displacements, on the principles of the treatment of. Banga1 displacements, operative procedures in. Herrick | 283<br>5564<br>269<br>283<br>5520<br>136<br>5509<br>133<br>92<br>251<br>124<br>795<br>12<br>548<br>819<br>259<br>682<br>370 |
| v   |   |
| Vaginal oöphorectomy. Byford  | 516<br>815<br>531<br>423<br>268<br>544<br>543   |
| W   |   |
| Waldo. The length of time sutures should be left in the cervix  |   |

PAGE

| Waxham. Apnea neonatorum  | 790 |
|---|-----|
| Werner. Who shall do abdominal surgery?                               | 636 |
| Winter. Extra-uterine pregnancy                                       | 34  |
| Withrow. Congenital amenorrhea and vicarious menstruation164,         | 225 |
| Wyder. Extra-uterine pregnancy  | 558 |
| Wylie. Self-induced abortion by a glass rod; subsequent removal of    |     |
| the rod from the abdominal cavity by laparatomy                       | 690 |
| Severe forms of salpingitis   |     |
| Uterine drainage441,  |     |
| · ·   |     |
|   |     |
|   |     |
| Z   |     |
|   |     |
| Zinke. Report of a case of induced premature labor followed by death, |     |
| Zweifel. Extra uterine pregnancy and retro-uterine hematoma           | 559 |



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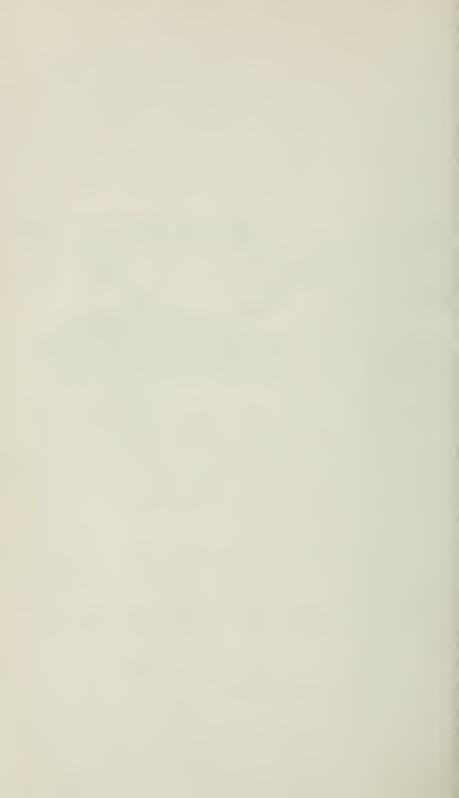
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